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ABSTRACT

The end-of-grade component of the North Carolina Testing Program was implemented in 1992-93 in response to state legislation. The end-of-grade tests emphasize higher-order thinking skills and the ability of students to solve real-life types of problems. These tests also reflect the higher standards set forth in national curriculum standards for student achievement. The open-ended assessment was administered to all students at grades 5 and 8 in November, 1996. One form was administered to all students in each grade, and the time of administration was 90 minutes. Each open-ended test is built around a reading passage or passages, and each test consists of six reading and six mathematics items. Professional scorers were trained to score the assessments using rubrics developed by North Carolina educators. Results from the open-ended assessment were returned to the school districts in March 1997 to give teachers feedback between instructional efforts and student performance. This was the first year of assessments in a new format, so comparison data was not available for earlier years. For grade 5, the mean total scale score for females was 48.2 and for males, 46.9. The mean total scale score for White students was 49.8, compared to 42.8 for Black students, 44.0 for Hispanic students, 43.6 for American Indians, 49.3 for Asians, 47.9 for multiracial students, and 46.6 for "other" students. In grade 8, results showed similar values, with females outscoring males, and results for ethnic groups generally were parallel to the grade-5 scores. Tables provide information about reading and mathematics achievement by ethnic group, gender, region, and school district. (Contains 12 figures, 10 tables, and 5 charts.) (SLD)

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*The 1996-97 Report of Student Performance*

ED 413 351

# North Carolina Open-Ended Assessment

## Grades 5 and 8

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# The

# 1996-97

# Report of Student Performance

# North Carolina

# Open-Ended Assessment

# Grades 5 and 8

Testing Section
Division of Accountability Services
North Carolina Department of Public Instruction
June, 1997

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# 1996-97
# Report of Student Performance
# North Carolina Open-Ended Assessment
# Grades 5 and 8

**Background**

The end-of-grade component of the North Carolina Testing Program was implemented in 1992-93 in response to legislation passed by the 1989 North Carolina General Assembly. The end-of-grade tests, like the North Carolina *Standard Course of Study,* place an emphasis on higher-level thinking skills—the ability of students to access, organize, process, analyze, evaluate and apply information to solve real-world problems and make informed decisions. End-of-grade tests also reflect the higher standards set forth by national curriculum standards for student achievement; they measure the skills students are expected to master in order to compete in a changing, complex world. The tests use several formats—traditional multiple-choice, writing samples, and open-ended questions to provide a balanced assessment of the breadth and depth of student knowledge of content and application of skills.

The North Carolina Open-Ended Assessment Grades 5 and 8 is designed to broadly measure higher level thinking skills by requiring students to apply or demonstrate skills and knowledge beyond the recall level on challenging subject matter. Test items commonly require the integration of knowledge and skills from more than one curricular area. Instead of choosing from a list of provided possible answers, students are required to generate their responses by writing out their thoughts. Often the quality of the students' responses is judged by the level of the students' explanation.

Open-ended assessment was initially implemented in 1992-93 in North Carolina at grades 3-8. The tests contained a balanced number of questions in reading, mathematics, and social studies for a total of 10 questions. The tests were scored centrally by teachers during the summer and were designed to inform instruction. No individual student scores were provided from the earlier versions of open-ended assessment. In 1995 with the onset of the ABCs Plan to reform public education, a decision was made to reduce the amount of testing. Open-ended assessment was suspended during the 1995-96 school year to allow for planning and revision of the assessment to focus on more challenging subject matter. The more challenging open-ended assessment represents a higher standard that focuses on what students should know and should be able to do instead of what they know and are able to do.

The 1996-97 North Carolina Open-Ended Assessment at each grade focuses on the content of a passage and emphasizes reading, mathematics, and writing. Skills from the social studies and science curricula are integrated into mathematics and reading. The open-ended assessment was administered to all students at grades 5 and 8 on November 13, 1996. One test form was administered to all students at each grade level. The test administration time allowed was 90 minutes.

**What is the format of the test?**

Each open-ended test is built around a reading passage or passages with test items that are loosely linked to the content of the passage. The passage or passages may include a variety of genres and writing for different purposes. Students may be directed to respond to open-ended items by:

- constructing a response,
- writing sentences,
- designing brochures,
- explaining an author's purpose,
- solving problems,
- constructing tables or charts,
- interpreting data,
- analyzing information, or
- writing a short essay.

Each test consists of 12 items — six reading and six mathematics. Students are required to respond to the items in the spaces provided in the test books. While the content of the mathematics items is linked to the reading passage, the items are not dependent on an understanding of the content of the passage. These items consistently measure the mathematics goals and strands as independent items. Social studies and science skills and content are embedded within some of the reading and mathematics items.

The reading section of the grade 5 test contains an item that requires descriptive writing; the grade 8 test contains an item that requires persuasive writing. These items allow for a three-quarter page response, and the scoring rubrics are developed to evaluate reading comprehension, composing, and applied language conventions.

**How are the tests scored?**

Professional scorers were trained to score the open-ended assessments at grades 5 and 8. Data Recognition Corporation (Minneapolis, MN) served as the contractor during the 1996-97 scoring. The scorers used rubrics and scoring guides developed by an advisory group of North Carolina teachers and curriculum specialists. Group and individual student scores along with student tests were returned to the school systems in March, 1997.

For scoring purposes, there is a general rubric for reading and a general rubric for mathematics. The use of a general rubric insures that the same level of expectation is maintained for all items within a content area. For example, a score point of two on one reading item should describe the same level of performance as a two on another reading item. In addition to a general rubric, each item has a specific scoring rubric that defines the levels of expectation for the particular item.

The number of score points in a rubric depends on the complexity of the item. Rubrics for items on the open-ended assessment range from two score points on a simple question that requires a convergent response to four score points for the more complex items that often require substantial elaboration or a more divergent response.

**What are the general rubrics for reading and mathematics?**

The general rubrics provide information regarding the scoring standards used in November, 1996. The general rubrics for reading and mathematics items follow.

**GENERAL RUBRIC**

**Reading**

0 Answer is unresponsive, unrelated, or inappropriate.

1 Answer deals with material on a concrete, literal level that is accurate in most dimensions.

2 Answer deals with most aspects of the question and makes correct inferences, although minor errors may exist. Comprehension is on an inferential level and the key skills are synthesis and analysis.

3 Answer addresses all aspects of the question and uses sound reasons and cites and explains appropriate examples. Uses skills of evaluation as well as analysis and synthesis.

**GENERAL RUBRIC**

**Mathematics**

0 Answer is unresponsive, unrelated, or inappropriate. Nothing correct.

1 Addresses item but only partially correct; something correct related to the question.

2 Answer deals correctly with most aspects of the question, but something is missing. May deal with all aspects but have minor errors.

3 All parts of the question are answered accurately and completely. All directions are followed.

**How are the scores reported?**

The results from the open-ended assessment were returned to each district during March, 1997. Schools and LEAs received class rosters, school rosters, and LEA reports. On the individual score report, students received an open-ended total scale score with subscores for reading and mathematics. The graphic for each score shows the scale score obtained with bars to the left and right indicating one standard error of measurement around the score. The length of the bar indicates that the true score will be within this range of scale scores two-thirds of the time.

Student scores provide feedback to teachers for a clearer link between instructional efforts and student performance. In addition, the original student test booklets and scoring guides were distributed to the teachers. Such feedback should lead to a higher level of achievement in this area in the future.

Achievement levels are not available for the 1996-97 open-ended assessment; however, they will be provided for the 1997-98 and subsequent administrations.

**1996-97 State-level Open-Ended Assessment Results**

This is the first year of the open-ended assessment using the new format; therefore, comparisons cannot be made with previous years' scores. At the state level, average student scores are low in comparison to typical student performance on other types of assessments.

*Raw Scores*

The modal reading score at both grade levels was a raw score point of one. One point is assigned to responses at the concrete, literal level. While the encouraging news is that more students in 1996-97 than in 1994-1995 are attempting the open-ended reading tasks and often moved out of the zero score point and into one's, most students still are not reaching the higher scores of two's or three's. At the higher score points student answers are expected to be more complete, to have clear explanations, and to go beyond the literal level. Also at the higher score points students are expected to provide responses that demonstrate skills in analysis, interpretation, and/or evaluation of ideas and concepts.

In analyzing the mathematics questions, a significant number of students received zero's. A zero score is given to responses that contain no information that is correct.

*Scale Scores*

The scales for the open-ended assessment were derived from the characteristics of the items when they were field tested during the 1995-96 school year. Each of the three scales for each grade (reading, mathematics, and total score) was calibrated to have a mean of 50 and a standard deviation of 10. Table A (below) shows the state statistics for the 1996-97 administration of the tests.

Scaling of the North Carolina Open-Ended Assessment at Grades 5 and 8 was provided by the L. L. Thurstone Psychometric Laboratory at the University of North Carolina at Chapel Hill based on an analysis of the data from the 1995-96 field test administration.

**Table A. 1996-97 North Carolina Open-Ended Assessment**
**Descriptive Statistics**
**Scale Scores**

| | | Total | | Reading | | Mathematics | |
|---|---|---|---|---|---|---|---|
| Grade | N | Mean (SD) | Range | Mean (SD) | Range | Mean (SD) | Range |
| 5 | 89,353 | 47.5 (9.0) | 25-80 | 45.2 (11.6) | 15-80 | 49.9 (8.8) | 36-81 |
| 8 | 86,479 | 48.5 (9.1) | 24-78 | 46.8 (10.0) | 12-79 | 50.0 (10.3) | 35-78 |

**Performance of Subgroups at Grade 5**

**Gender.** The mean total scale score for females is 48.2, and the mean total scale score for males is 46.9. On the average, females scored a 46.4, while males averaged 44.0 on the reading items. On mathematics items there was no significant difference between the average scale score for females (50.0) and males (49.9).

**Ethnicity.** The mean total scale score for White students is 49.8 compared to 42.8 for Black students, 44.0 for Hispanic students, 43.6 for American Indian students, 49.3 for Asian students, 47.9 for Multi-racial students, and 46.6 for Other students.

The average reading scale score for White students is 47.5 while Black students scored 40.4, Hispanic students scored 41.0, American Indian students scored 40.4, Asian students scored 46.7, Multi-racial students scored 45.8, and Other students scored 43.9.

The mean for White students on mathematics is 52.0 compared to 45.4 for Black students, 47.0 for Hispanic students, 46.9 for American Indian students, 51.9 for Asian students, 50.1 for Multi-racial students, and 49.3 for Other students.

*Figure 1 depicts the total scale score at grade 5 by ethnicity and gender. Figure 3 illustrates the mean reading scale score at grade 5 by ethnicity and gender; Figure 5 illustrates the mean mathematics scale score at grade 5 by ethnicity and gender.*

**Performance of Subgroups at Grade 8**

**Gender.** On the average, female students received a total scale score of 49.5; males received a total scale score of 47.5. The mean reading scale score for females is 48.4 and for males is 45.2. In mathematics, females scored a 50.5, and males scored a 49.6.

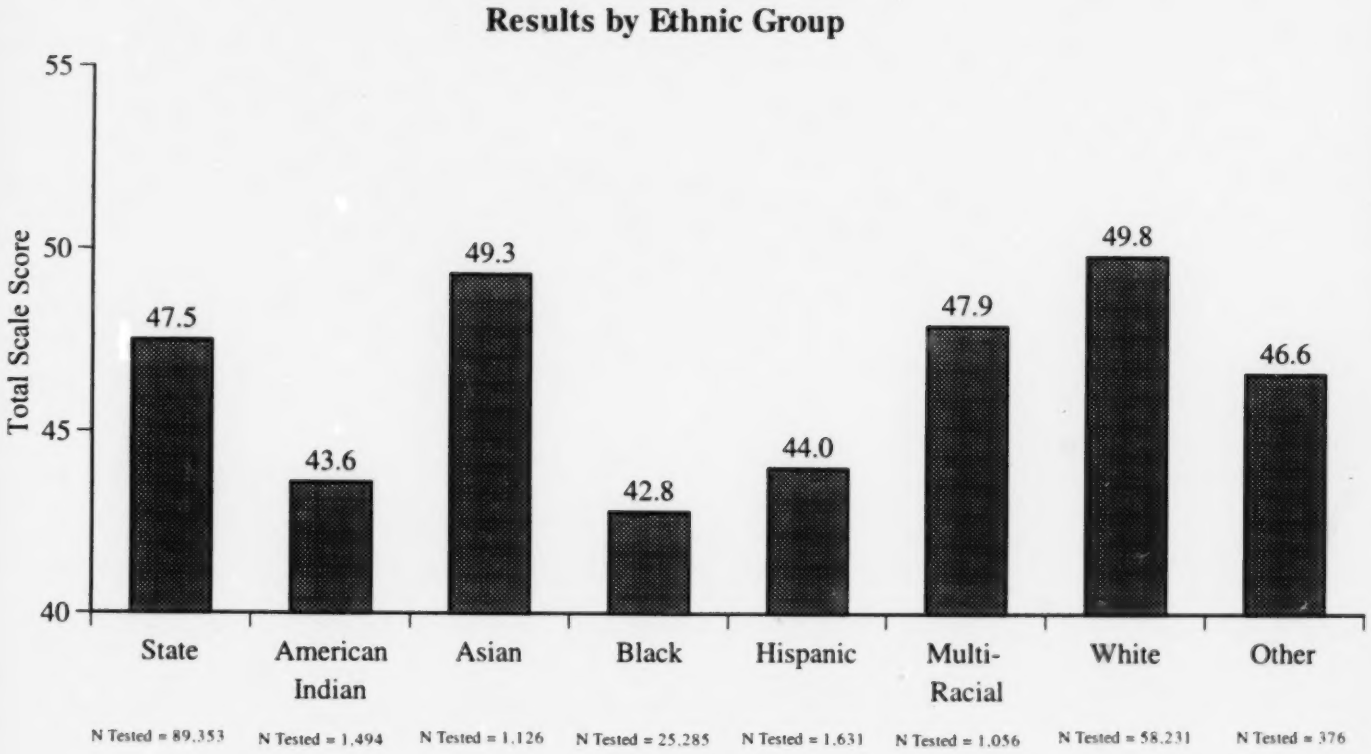
**Ethnicity.** White students scored a mean total scale score of 51.0 compared to 43.1 for Black students, 44.5 for Hispanic students, 44.1 for American Indian students, 50.2 for Asian students, 48.6 for Multi-racial students, and 47.9 for Other students

The mean reading scale score for White students is 49.0 while Black students scored a 42.2, Hispanic students scored a 42.7, American Indian students scored a 42.0, Asian students scored a 47.7, Multi-racial students scored a 47.5, and Other students scored a 46.1.

The average mathematics scale score for White students is 52.9 compared to 43.9 for Black students, 46.2 for Hispanic students, 46.1 for American Indian students, 52.8 for Asian students, 49.7 for Multi-racial students, and 49.5 for Other students.

*Figure 2 illustrates the total scale score at grade eight by ethnicity and gender. Figures 4 and 6 depict the mean reading and mathematics scale scores respectively at grade eight by ethnicity and gender.*

**Figure 1. 1996-97 North Carolina Open-Ended Assessment**
**Total Mean Scale Scores**
**Grade 5**



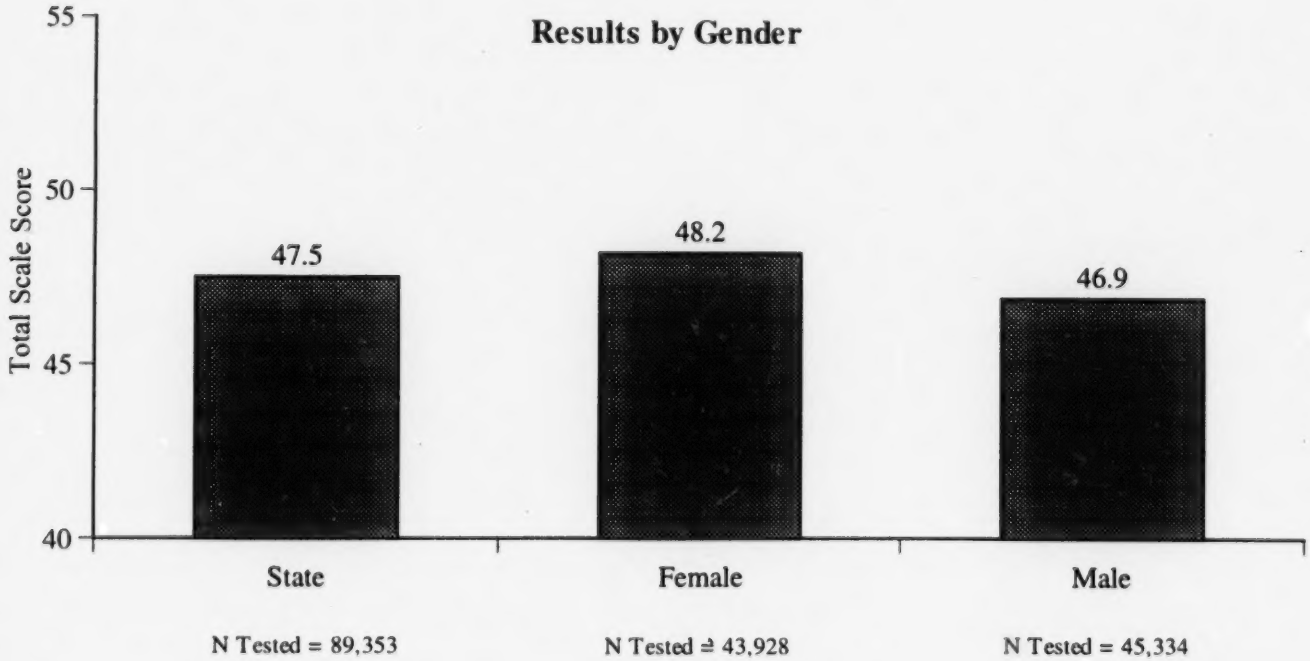
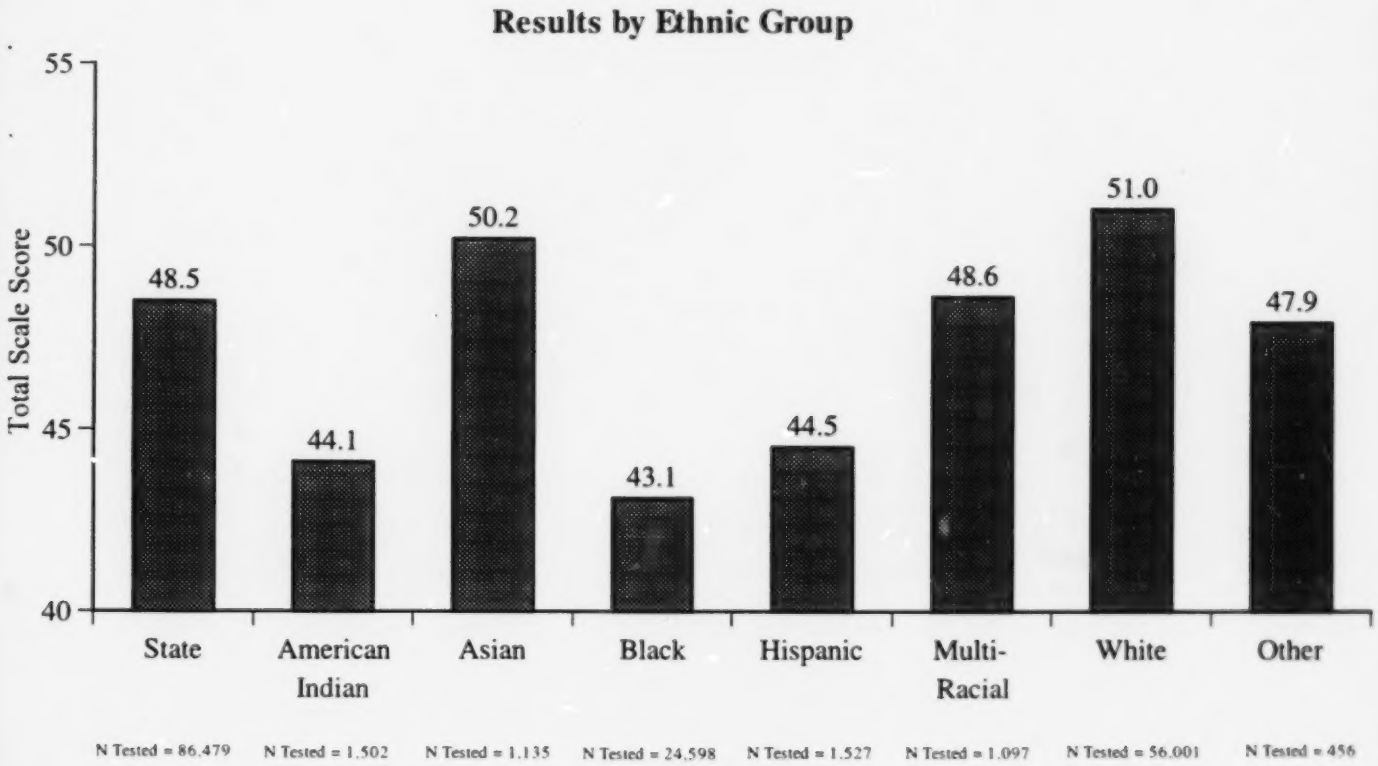



**Figure 2. 1996-97 North Carolina Open-Ended Assessment**
**Total Mean Scale Scores**
**Grade 8**



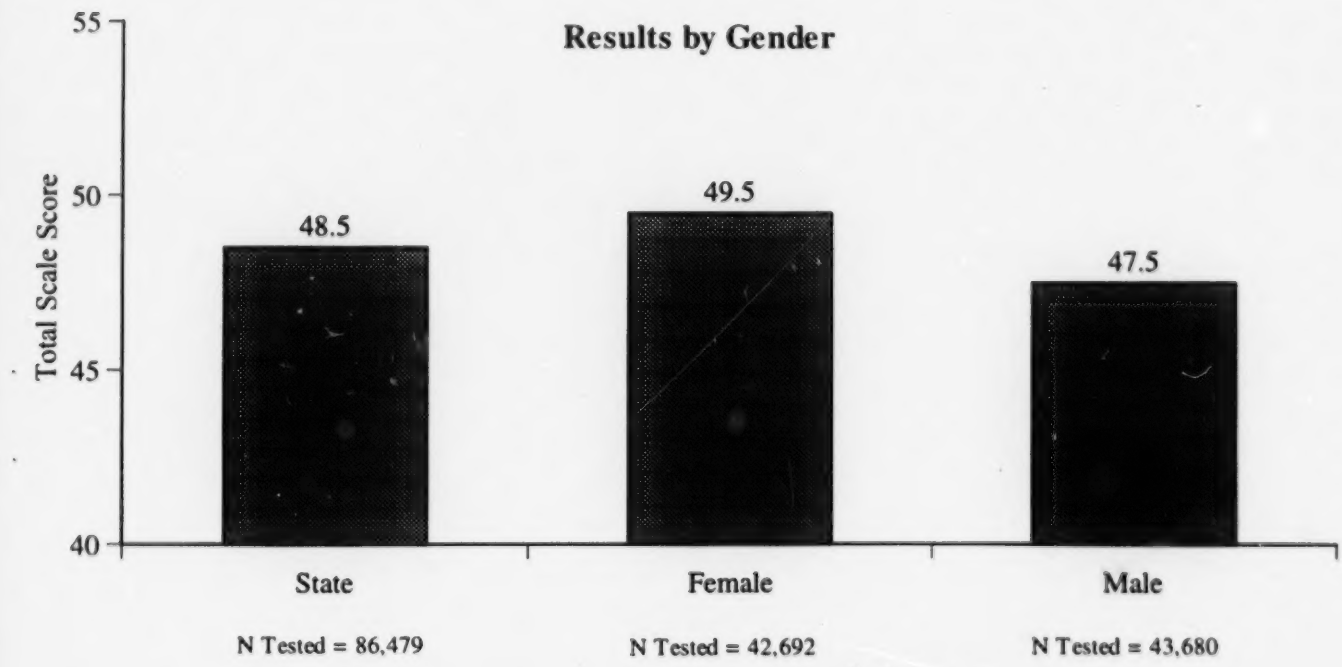
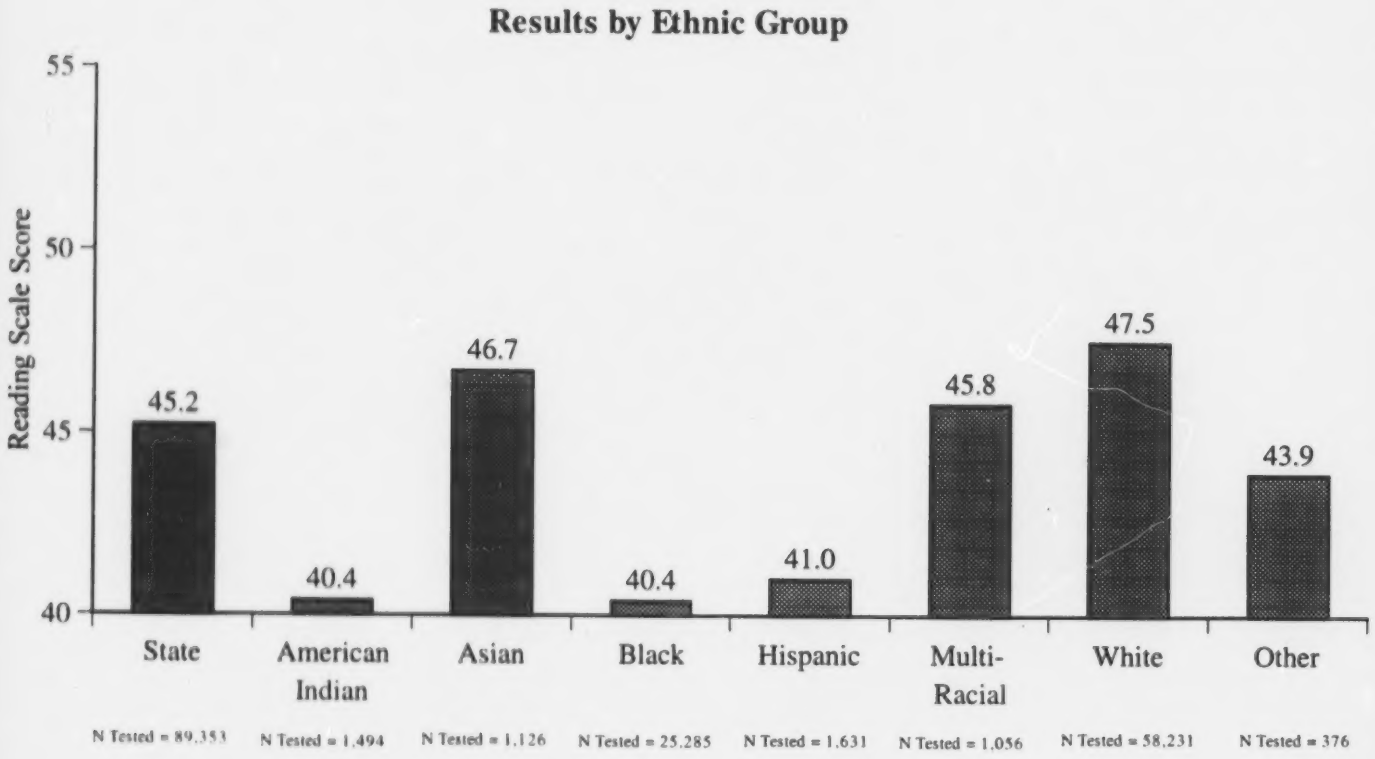



**Figure 3. 1996-97 North Carolina Open-Ended Assessment**
**Reading Mean Scale Scores**
**Grade 5**



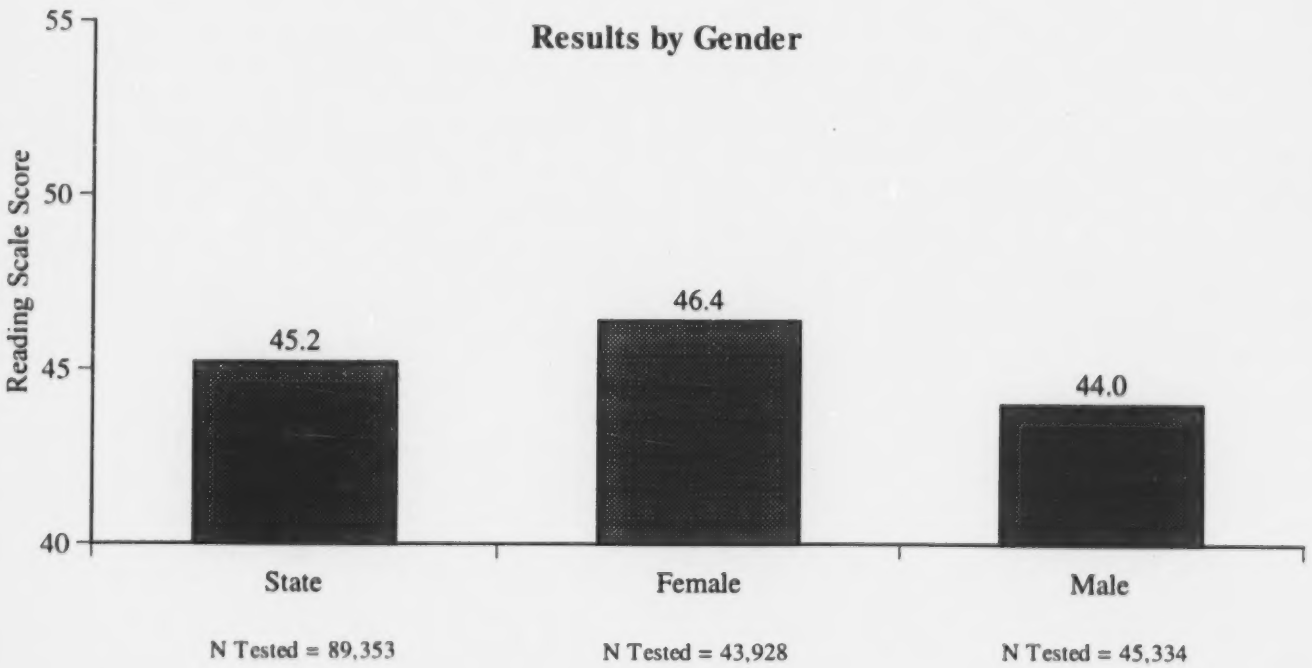
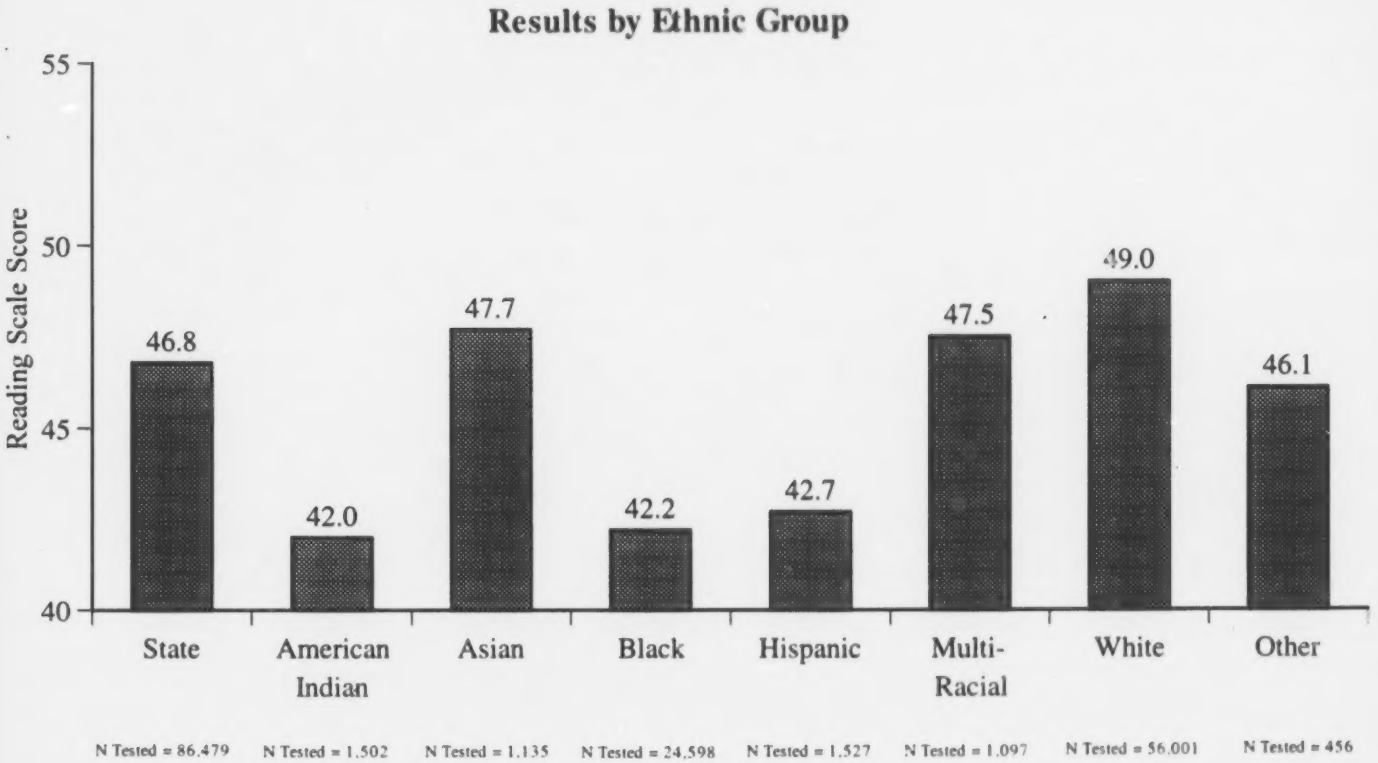



**Figure 4. 1996-97 North Carolina Open-Ended Assessment**
**Reading Mean Scale Scores**
**Grade 8**



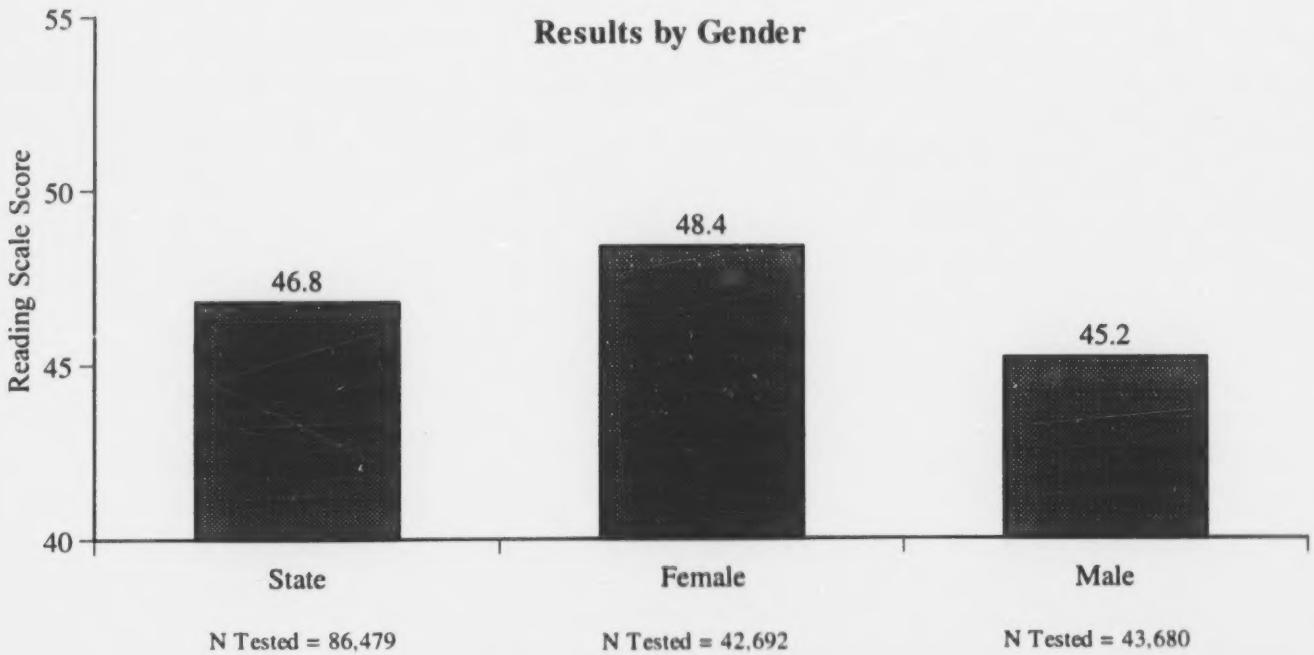
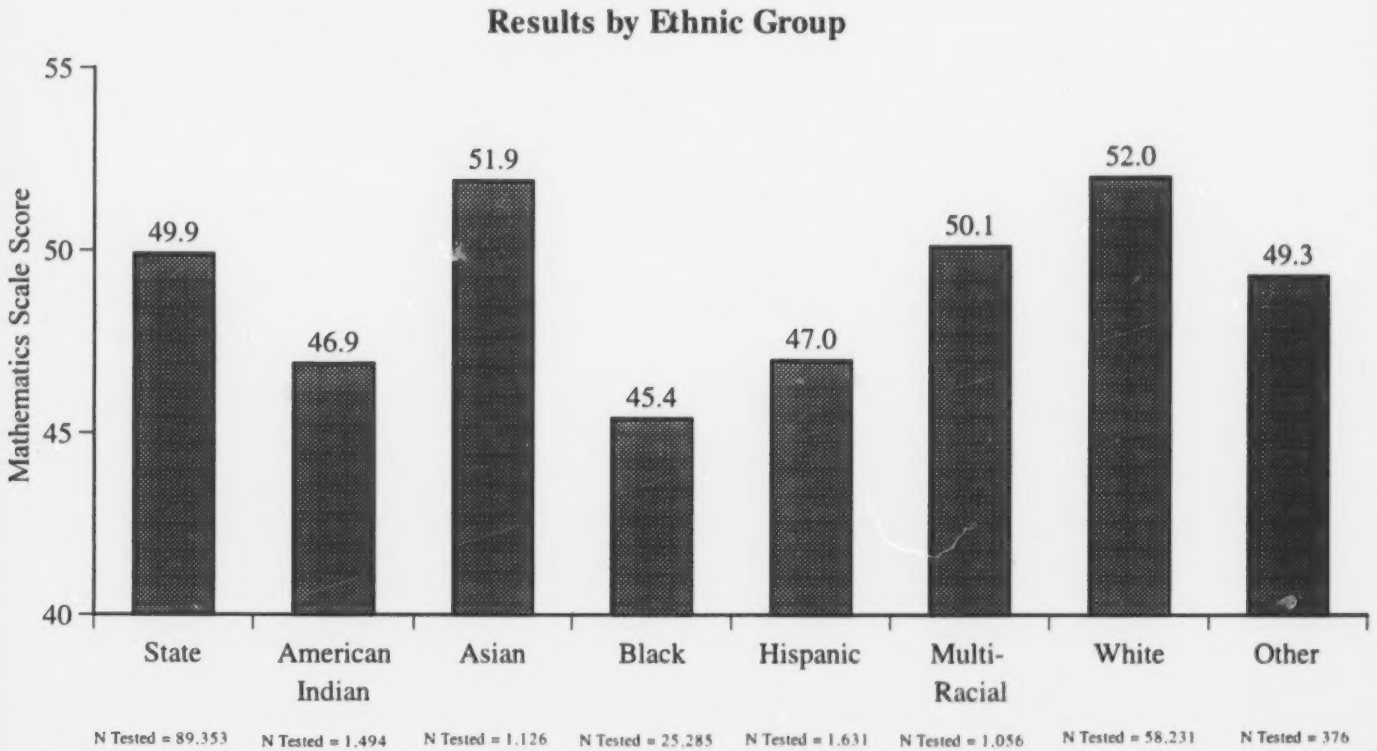



**Figure 5. 1996-97 North Carolina Open-Ended Assessment**
**Mathematics Mean Scale Scores**
**Grade 5**



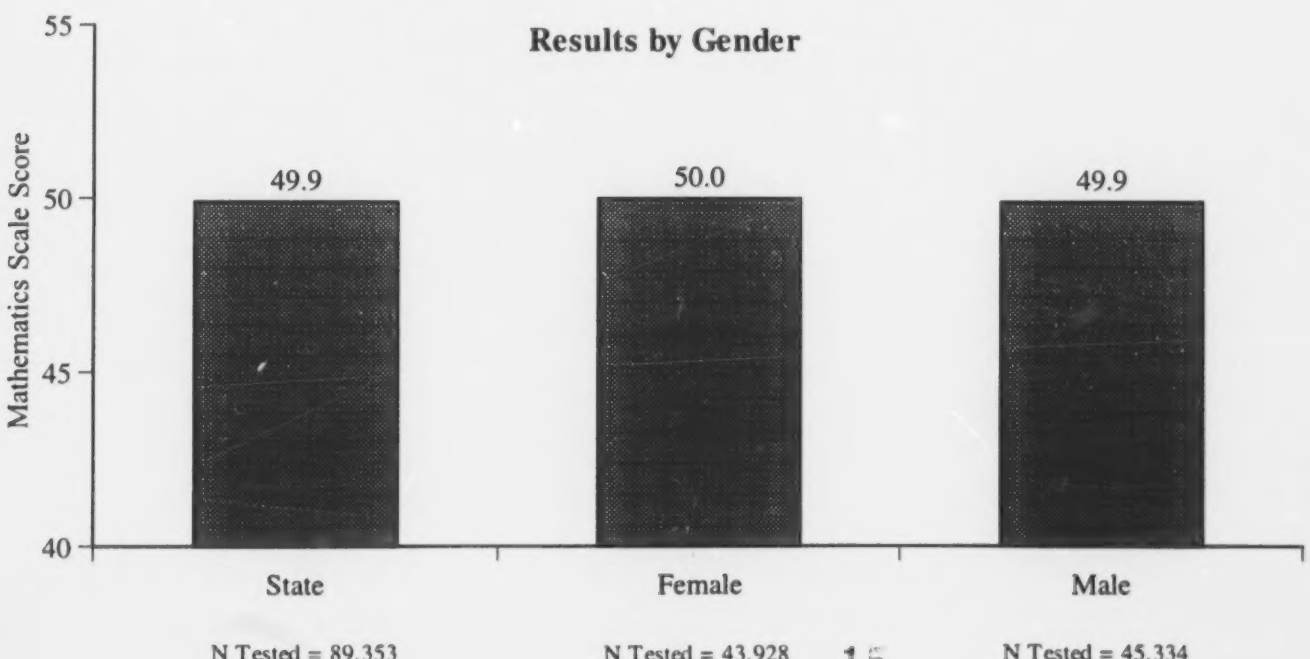
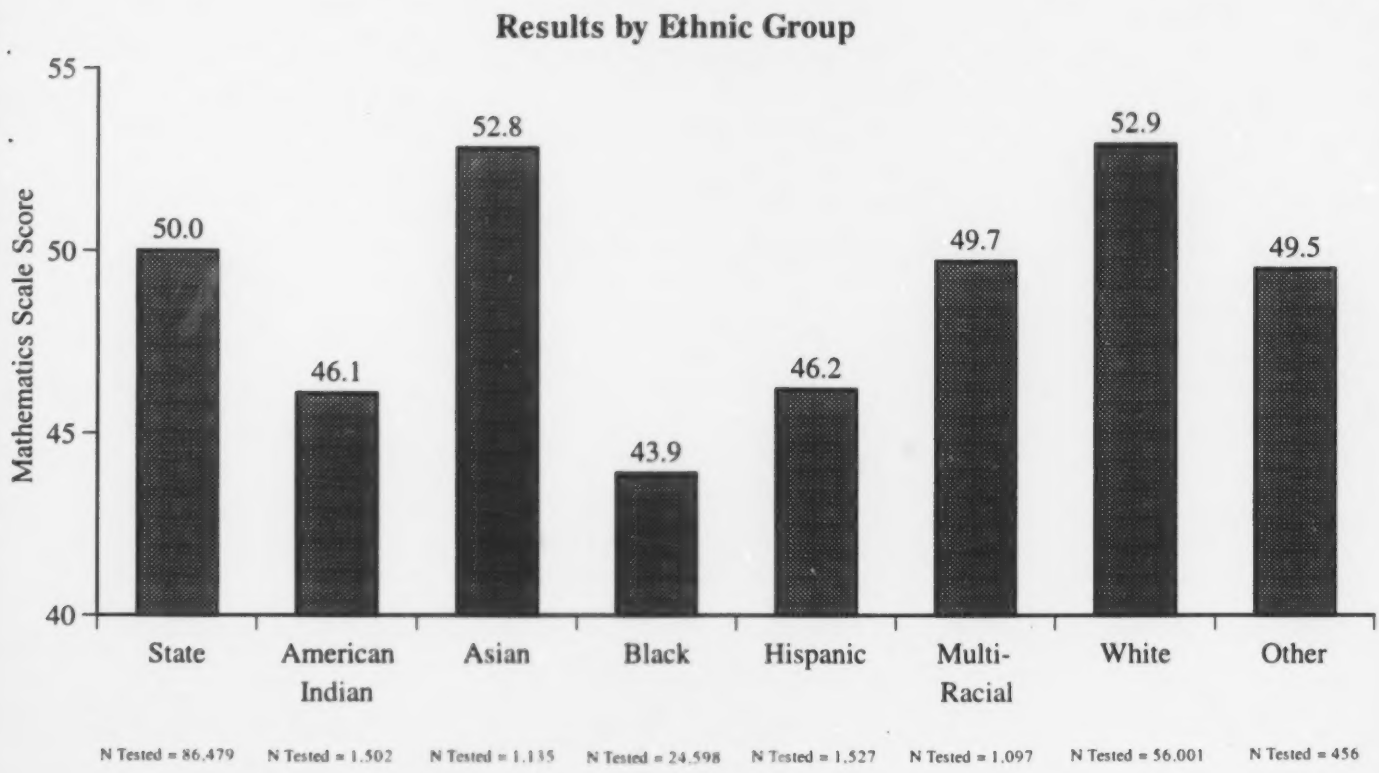
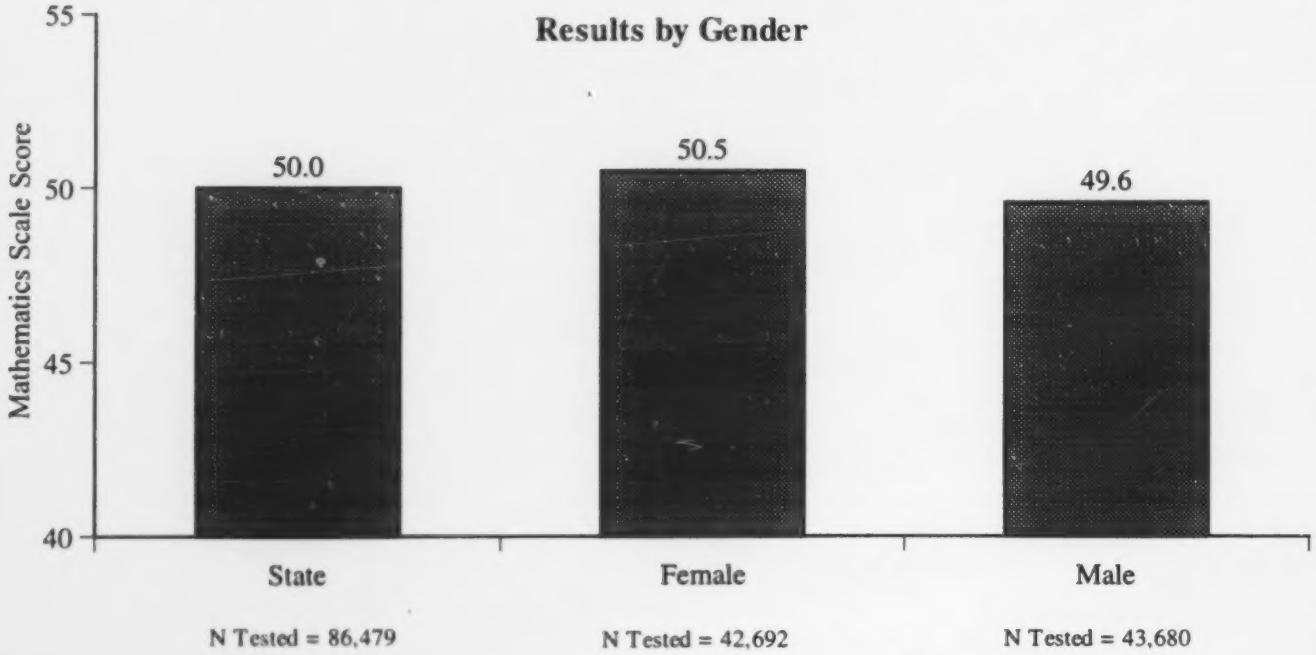



**Figure 6. 1996-97 North Carolina Open-Ended Assessment**
**Mathematics Mean Scale Scores**
**Grade 8**



1996-97

North Carolina

Open-Ended Assessment

Grades 5 and 8

Regional By-LEA Performance

Tables 1 through 6 provide the number of students tested, total mean scale scores, and the mean scale scores in reading and mathematics for each of the LEAs by (old six Technical Assistance Centers configurations) region. Statistics are provided for grades 5 and 8.

# Table 1. 1996-97 North Carolina Open-Ended Assessment
## Mean Scale Scores
## Grade 5
## Region by LEA

### Western Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Buncombe | 1,817 | 48.3 | 53.7 | 51.0 |
| Asheville City | 321 | 43.2 | 49.3 | 46.3 |
| Cherokee | 263 | 45.3 | 49.6 | 47.5 |
| Clay | 89 | 47.8 | 54.4 | 51.0 |
| Graham | 93 | 45.7 | 52.0 | 48.9 |
| Haywood | 575 | 47.2 | 51.8 | 49.5 |
| Henderson | 807 | 49.1 | 52.4 | 50.7 |
| Jackson | 258 | 47.9 | 52.3 | 50.1 |
| Macon | 280 | 47.0 | 52.2 | 49.6 |
| Madison | 163 | 44.1 | 49.4 | 46.8 |
| McDowell | 436 | 45.6 | 49.1 | 47.3 |
| Mitchell | 179 | 48.4 | 51.0 | 49.6 |
| Polk | 174 | 50.4 | 50.8 | 50.6 |
| Rutherford | 749 | 45.2 | 48.1 | 46.6 |
| Swain | 116 | 48.3 | 53.0 | 50.7 |
| Transylvania | 293 | 49.8 | 53.2 | 51.5 |
| Yancey | 187 | 46.0 | 50.8 | 48.4 |

### Northwest Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Alexander | 378 | 44.8 | 49.3 | 47.0 |
| Alleghany | 97 | 50.7 | 52.6 | 51.7 |
| Ashe | 252 | 43.2 | 50.6 | 46.9 |
| Avery | 177 | 51.9 | 54.7 | 53.4 |
| Burke | 1,012 | 48.3 | 52.0 | 50.2 |
| Caldwell | 838 | 46.8 | 49.7 | 48.2 |
| Catawba | 1,075 | 45.8 | 50.4 | 48.1 |
| Hickory City | 339 | 46.6 | 49.6 | 48.1 |
| Newton-Conover | 171 | 45.7 | 49.8 | 47.7 |
| Davidson | 1,329 | 44.8 | 49.9 | 47.4 |
| Lexington City | 225 | 41.8 | 49.4 | 45.5 |
| Thomasville City | 159 | 41.1 | 46.4 | 43.7 |
| Davie | 371 | 44.9 | 52.3 | 48.6 |
| Forsyth | 3,041 | 45.6 | 51.7 | 48.7 |
| Iredell-Statesville | 1,069 | 42.7 | 49.4 | 46.1 |
| Mooresville City | 262 | 46.9 | 50.3 | 48.6 |
| Stokes | 521 | 46.4 | 51.2 | 48.8 |
| Surry | 567 | 48.3 | 51.3 | 49.8 |
| Elkin City | 74 | 49.4 | 48.5 | 48.9 |
| Mount Airy City | 147 | 46.5 | 53.5 | 50.1 |
| Watauga | 400 | 53.2 | 53.2 | 53.2 |
| Wilkes | 768 | 46.3 | 51.1 | 48.7 |
| Yadkin | 441 | 45.3 | 52.8 | 49.1 |





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# Table 2. 1996-97 North Carolina Open-Ended Assessment
## Mean Scale Scores
## Grade 5
## Region by LEA

### Southwest Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Anson | 284 | 42.7 | 48.7 | 45.7 |
| Cabarrus | 1,262 | 46.4 | 51.2 | 48.8 |
| Kannapolis City | 312 | 42.1 | 46.8 | 44.4 |
| Cleveland | 691 | 43.3 | 49.3 | 46.3 |
| Kings Mountain | 308 | 44.6 | 51.5 | 48.1 |
| Shelby City | 226 | 46.5 | 49.8 | 48.1 |
| Gaston | 2,303 | 42.9 | 48.0 | 45.4 |
| Hoke | 427 | 40.5 | 47.0 | 43.7 |
| Lincoln | 696 | 45.7 | 51.5 | 48.6 |
| Mecklenburg | 6,951 | 45.2 | 49.8 | 47.5 |
| Montgomery | 289 | 41.4 | 46.3 | 43.8 |
| Moore | 750 | 45.3 | 49.2 | 47.2 |
| Richmond | 567 | 42.1 | 46.2 | 44.1 |
| Rowan | 1,490 | 42.5 | 48.0 | 45.2 |
| Scotland | 514 | 43.9 | 45.8 | 44.8 |
| Stanly | 563 | 47.8 | 50.4 | 49.1 |
| Albemarle City | 169 | 44.2 | 49.1 | 46.5 |
| Union | 1,470 | 48.3 | 52.1 | 50.4 |

### Northeast Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Beaufort | 511 | 45.1 | 49.1 | 47.1 |
| Bertie | 278 | 39.6 | 45.3 | 42.4 |
| Camden | 114 | 45.1 | 48.3 | 46.7 |
| Chowan | 196 | 43.7 | 46.9 | 45.2 |
| Currituck | 244 | 47.6 | 51.8 | 49.8 |
| Dare | 329 | 50.2 | 50.3 | 50.2 |
| Edgecombe | 559 | 43.8 | 45.5 | 44.5 |
| Gates | 159 | 43.5 | 47.7 | 45.5 |
| Halifax | 394 | 42.6 | 49.5 | 46.0 |
| Roanoke Rapids City | 258 | 46.2 | 48.8 | 47.5 |
| Weldon City | 80 | 40.4 | 47.3 | 43.8 |
| Hertford | 318 | 41.6 | 48.5 | 45.0 |
| Hyde | 56 | 42.2 | 47.9 | 45.0 |
| Martin | 334 | 44.6 | 48.3 | 46.4 |
| Northampton | 293 | 39.8 | 45.8 | 42.8 |
| Pasquotank | 473 | 42.4 | 49.1 | 45.7 |
| Perquimans | 159 | 40.3 | 46.8 | 43.5 |
| Pitt | 1,413 | 43.4 | 48.7 | 46.0 |
| Tyrrell | 61 | 40.5 | 47.0 | 43.7 |
| Washington | 162 | 42.5 | 46.1 | 44.3 |



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## Table 3. 1996-97 North Carolina Open-Ended Assessment
## Mean Scale Scores
## Grade 5
## Region by LEA

### Southeast Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Bladen | 396 | 43.8 | 47.5 | 45.6 |
| Brunswick | 735 | 42.4 | 47.7 | 45.0 |
| Carteret | 636 | 44.8 | 49.0 | 46.9 |
| Columbus | 557 | 43.4 | 46.7 | 45.0 |
| Whiteville City | 204 | 47.5 | 49.5 | 48.5 |
| Craven | 1,130 | 48.0 | 50.5 | 49.2 |
| Cumberland | 4,142 | 44.8 | 49.2 | 47.0 |
| Duplin | 592 | 42.7 | 48.4 | 45.5 |
| Greene | 196 | 39.7 | 48.7 | 44.2 |
| Jones | 102 | 46.8 | 49.1 | 48.0 |
| Lenoir | 744 | 45.3 | 47.0 | 46.1 |
| New Hanover | 1,516 | 47.0 | 52.5 | 49.7 |
| Onslow | 1,513 | 44.5 | 49.7 | 47.1 |
| Pamlico | 139 | 48.6 | 50.6 | 49.5 |
| Pender | 429 | 45.9 | 48.9 | 47.4 |
| Robeson | 1,646 | 40.1 | 46.5 | 43.3 |
| Sampson | 508 | 43.7 | 48.6 | 46.1 |
| Clinton City | 186 | 44.7 | 47.3 | 45.9 |
| Wayne | 1,417 | 42.9 | 47.9 | 45.4 |

### Central Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Alamance | 1,359 | 44.8 | 51.5 | 48.2 |
| Caswell | 301 | 45.1 | 49.4 | 47.2 |
| Chatham | 521 | 45.3 | 49.9 | 47.6 |
| Durham | 2,186 | 43.9 | 49.3 | 46.5 |
| Franklin | 545 | 41.6 | 47.1 | 44.3 |
| Granville | 603 | 44.3 | 49.6 | 46.9 |
| Guilford | 4,357 | 46.7 | 50.7 | 48.7 |
| Harnett | 1,075 | 42.2 | 47.2 | 44.7 |
| Johnston | 1,296 | 46.3 | 48.5 | 47.4 |
| Lee | 650 | 44.5 | 49.7 | 47.1 |
| Nash/Rocky Mount | 1,222 | 44.6 | 49.8 | 47.2 |
| Orange | 425 | 45.0 | 49.7 | 47.4 |
| Chapel Hill City | 615 | 52.5 | 55.2 | 53.9 |
| Person | 422 | 43.4 | 49.9 | 46.6 |
| Randolph | 1,182 | 44.8 | 49.7 | 47.2 |
| Asheboro City | 311 | 47.0 | 52.3 | 49.7 |
| Rockingham | 1,056 | 43.9 | 48.9 | 46.4 |
| Vance | 536 | 39.9 | 46.1 | 42.9 |
| Wake | 6,619 | 47.7 | 52.8 | 50.3 |
| Warren | 242 | 39.4 | 45.2 | 42.2 |
| Wilson | 866 | 41.6 | 46.7 | 44.1 |







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# Table 4. 1996-97 North Carolina Open-Ended Assessment
## Mean Scale Scores
## Grade 8
## Region by LEA

### Western Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| **Buncombe** | **1,808** | **50.9** | **54.2** | **52.6** |
| Asheville City | 297 | 49.3 | 51.3 | 50.4 |
| **Cherokee** | **265** | **49.2** | **52.5** | **50.9** |
| Clay | 111 | 48.7 | 52.9 | 50.9 |
| **Graham** | **84** | **53.3** | **53.4** | **53.4** |
| Haywood | 563 | 49.1 | 52.6 | 50.9 |
| **Henderson** | **820** | **50.5** | **53.2** | **51.9** |
| Jackson | 290 | 50.0 | 52.9 | 51.5 |
| **Macon** | **289** | **46.6** | **52.9** | **49.8** |
| Madison | 191 | 45.0 | 50.0 | 47.6 |
| **McDowell** | **487** | **46.1** | **49.2** | **47.7** |
| Mitchell | 188 | 47.8 | 53.2 | 50.5 |
| **Polk** | **166** | **49.9** | **52.5** | **51.2** |
| Rutherford | 759 | 46.1 | 49.8 | 48.0 |
| **Swain** | **125** | **50.4** | **53.2** | **51.8** |
| Transylvania | 311 | 49.0 | 54.0 | 51.5 |
| **Yancey** | **162** | **49.0** | **51.5** | **50.3** |

### Northwest Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| **Alexander** | **360** | **46.9** | **49.9** | **48.5** |
| Alleghany | 108 | 47.1 | 51.2 | 49.2 |
| **Ashe** | **270** | **48.5** | **51.2** | **49.9** |
| Avery | 179 | 48.6 | 51.6 | 50.1 |
| **Burke** | **1,023** | **47.2** | **50.3** | **48.8** |
| Caldwell | 855 | 47.6 | 51.0 | 49.4 |
| **Catawba** | **1,105** | **47.7** | **52.1** | **50.0** |
| Hickory City | 305 | 47.5 | 51.5 | 49.6 |
| **Newton-Conover** | **205** | **46.7** | **49.4** | **48.2** |
| Davidson | 1,316 | 47.1 | 50.6 | 48.9 |
| **Lexington City** | **224** | **42.8** | **46.8** | **44.9** |
| Thomasville City | 148 | 44.2 | 46.5 | 45.4 |
| **Davie** | **374** | **48.2** | **51.5** | **49.9** |
| Forsyth | 2,859 | 47.8 | 51.1 | 49.5 |
| **Iredell-Statesville** | **1,096** | **47.3** | **50.4** | **48.9** |
| Mooresville City | 244 | 50.2 | 52.3 | 51.3 |
| **Stokes** | **528** | **48.6** | **50.0** | **49.3** |
| Surry | 627 | 46.9 | 51.0 | 49.0 |
| **Elkin City** | **90** | **52.7** | **55.1** | **53.8** |
| Mount Airy City | 140 | 48.6 | 52.9 | 50.8 |
| **Watauga** | **377** | **51.2** | **55.0** | **53.1** |
| Wilkes | 766 | 48.0 | 51.2 | 49.6 |
| **Yadkin** | **392** | **49.4** | **50.9** | **50.2** |





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# Table 5. 1996-97 North Carolina Open-Ended Assessment, Mean Scale Scores Grade 8 Region by LEA

## Southwest Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Anson | 302 | 42.8 | 45.1 | 44.0 |
| Cabarrus | 1,238 | 48.8 | 52.4 | 50.6 |
| Kannapolis City | 300 | 45.9 | 48.5 | 47.2 |
| Cleveland | 680 | 45.8 | 49.8 | 47.9 |
| Kings Mountain | 289 | 46.7 | 48.8 | 47.8 |
| Shelby City | 238 | 46.8 | 50.6 | 48.8 |
| Gaston | 2,219 | 45.0 | 48.6 | 46.9 |
| Hoke | 422 | 41.2 | 44.6 | 43.0 |
| Lincoln | 731 | 47.8 | 50.3 | 49.1 |
| Mecklenburg | 6,309 | 45.4 | 49.1 | 47.3 |
| Montgomery | 324 | 45.3 | 49.1 | 47.3 |
| Moore | 736 | 47.0 | 50.2 | 48.7 |
| Richmond | 644 | 44.0 | 45.5 | 44.8 |
| Rowan | 1,387 | 46.1 | 49.7 | 48.0 |
| Scotland | 523 | 45.7 | 47.2 | 46.5 |
| Stanly | 543 | 48.3 | 51.9 | 50.1 |
| Albemarle City | 166 | 46.4 | 49.3 | 47.9 |
| Union | 1,361 | 48.2 | 51.4 | 49.9 |

## Northeast Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Beaufort | 519 | 47.3 | 49.7 | 48.6 |
| Bertie | 320 | 41.6 | 44.3 | 43.1 |
| Camden | 86 | 45.2 | 49.4 | 47.4 |
| Chowan | 178 | 44.5 | 47.2 | 45.9 |
| Currituck | 246 | 45.6 | 50.3 | 48.0 |
| Dare | 335 | 52.5 | 54.1 | 53.4 |
| Edgecombe | 562 | 45.9 | 47.7 | 46.8 |
| Gates | 147 | 43.6 | 45.6 | 44.7 |
| Halifax | 443 | 39.8 | 43.3 | 41.7 |
| Roanoke Rapids City | 222 | 46.9 | 51.6 | 49.2 |
| Weldon City | 76 | 39.3 | 41.3 | 40.4 |
| Hertford | 334 | 42.0 | 44.5 | 43.3 |
| Hyde | 75 | 46.1 | 49.1 | 47.7 |
| Martin | 377 | 45.7 | 46.7 | 46.3 |
| Northampton | 282 | 42.9 | 45.4 | 44.3 |
| Pasquotank | 458 | 47.3 | 48.5 | 47.9 |
| Perquimans | 137 | 40.8 | 46.7 | 43.9 |
| Pitt | 1,347 | 46.2 | 48.9 | 47.6 |
| Tyrrell | 53 | 43.7 | 47.4 | 45.6 |
| Washington | 197 | 40.9 | 45.6 | 43.3 |





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## Table 6. 1996-97 North Carolina Open-Ended Assessment
## Mean Scale Scores
## Grade 8
## Region by LEA

### Southeast Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Bladen | 435 | 45.1 | 46.7 | 46.0 |
| Brunswick | 704 | 46.7 | 49.4 | 48.1 |
| Carteret | 668 | 46.6 | 51.1 | 48.9 |
| Columbus | 542 | 43.8 | 47.1 | 45.5 |
| Whiteville City | 198 | 46.9 | 50.4 | 48.7 |
| Craven | 1,093 | 46.4 | 50.0 | 48.3 |
| Cumberland | 3,639 | 46.4 | 48.1 | 47.3 |
| Duplin | 553 | 46.5 | 48.5 | 47.6 |
| Greene | 239 | 44.4 | 46.6 | 45.6 |
| Jones | 126 | 43.7 | 43.7 | 43.8 |
| Lenoir | 766 | 47.4 | 48.8 | 48.1 |
| New Hanover | 1,486 | 48.2 | 52.0 | 50.2 |
| Onslow | 1,597 | 46.3 | 50.4 | 48.4 |
| Pamlico | 177 | 44.2 | 49.8 | 47.1 |
| Pender | 461 | 46.3 | 49.0 | 47.7 |
| Robeson | 1,667 | 42.4 | 46.4 | 44.5 |
| Sampson | 528 | 45.3 | 47.7 | 46.6 |
| Clinton City | 187 | 44.7 | 47.7 | 46.3 |
| Wayne | 1,364 | 44.9 | 47.4 | 46.2 |

### Central Region

| | Number Tested | Reading Scale Score | Mathematics Scale Score | Total Scale Score |
|---|---|---|---|---|
| Alamance | 1,285 | 47.4 | 50.4 | 49.0 |
| Caswell | 275 | 46.0 | 47.1 | 46.6 |
| Chatham | 457 | 50.1 | 51.2 | 50.7 |
| Durham | 1,947 | 45.5 | 49.0 | 47.3 |
| Franklin | 489 | 44.7 | 47.0 | 45.9 |
| Granville | 517 | 46.2 | 49.1 | 47.7 |
| Guilford | 4,041 | 46.6 | 50.3 | 48.5 |
| Harnett | 1,014 | 46.0 | 48.8 | 47.5 |
| Johnston | 1,252 | 48.5 | 51.0 | 49.8 |
| Lee | 632 | 47.5 | 49.6 | 48.6 |
| Nash/Rocky Mount | 1,306 | 46.5 | 48.1 | 47.4 |
| Orange | 386 | 46.4 | 49.3 | 47.8 |
| Chapel Hill City | 627 | 53.2 | 57.6 | 55.4 |
| Person | 418 | 44.8 | 49.3 | 47.2 |
| Randolph | 1,102 | 48.5 | 51.2 | 49.9 |
| Asheboro City | 247 | 49.1 | 51.7 | 50.4 |
| Rockingham | 1,000 | 47.6 | 49.5 | 48.6 |
| Vance | 471 | 41.8 | 46.5 | 44.2 |
| Wake | 6,121 | 48.8 | 54.0 | 51.4 |
| Warren | 267 | 44.2 | 45.5 | 44.9 |
| Wilson | 882 | 44.7 | 48.1 | 46.5 |

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Open-Ended Assessment

Grades 5 and 8

LEA Performance

Tables 7 and 8 provide stem and leaf plots that depict the total mean scale score performance for each of the LEAs rounded up to the nearest two-tenths of a point. Statistics are provided for grades 5 and 8.

# Table 7. 1996-97 North Carolina Open-Ended Assessment
## Grade 5 Total Mean Scale Scores*
## By LEA

| State | | 1996-97 LEA Performance |
|---|---|---|
| | 54.4 | |
| | 54.2 | |
| | 54.0 | Chapel Hill City |
| | 53.8 | |
| | 53.6 | |
| | 53.4 | Avery |
| | 53.2 | Watauga |
| | 53.0 | |
| | 52.8 | |
| | 52.6 | |
| | 52.4 | |
| | 52.2 | |
| | 52.0 | |
| | 51.8 | Alleghany |
| | 51.6 | Transylvania |
| | 51.4 | |
| | 51.2 | |
| | 51.0 | Buncombe, Clay |
| | 50.8 | Henderson, Swain |
| | 50.6 | Polk |
| | 50.4 | Wake, Union |
| | 50.2 | Jackson, Mount Airy City, Burke, Dare |
| | 50.0 | |
| | 49.8 | New Hanover, Asheboro City, Surry, Currituck |
| | 49.6 | Haywood, Pamlico, Macon, Mitchell |
| | 49.4 | |
| | 49.2 | Yadkin, Stanly, Craven |
| | 49.0 | Graham, Elkin City |
| | 48.8 | Forsyth, Wilkes, Guilford, Stokes, Cabarrus |
| | 48.6 | Whiteville City, Davie, Mooresville City, Lincoln |
| | 48.4 | Yancey |
| | 48.2 | Catawba, Hickory City, Kings Mountain, Shelby City, Caldwell, Alamance |
| | 48.0 | Jones |
| | 47.8 | Newton-Conover |
| 1996-97 State | 47.6 | Cherokee, Mecklenburg, Roanoke Rapids City, Chatham |
| | 47.4 | McDowell, Davidson, Pender, Johnston, Orange |
| | 47.2 | Beaufort, Onslow, Lee, Moore, Caswell, Nash/Rocky Mount, Randolph |
| | 47.0 | Ashe, Carteret, Granville, Alexander, Cumberland |
| | 46.8 | Camden, Madison |
| | 46.6 | Albemarle City, Durham, Rutherford, Person |
| | 46.4 | Asheville City, Cleveland, Martin, Rockingham |
| | 46.2 | Iredell-Statesville, Lenoir, Sampson |
| | 46.0 | Clinton City, Halifax, Pitt |
| | 45.8 | Anson, Pasquotank |
| | 45.6 | Lexington City, Gates, Duplin, Bladen |
| | 45.4 | Gaston, Wayne |
| | 45.2 | Rowan, Chowan |
| | 45.0 | Hertford, Hyde, Brunswick, Columbus |
| | 44.8 | Harnett, Scotland |
| | 44.6 | Edgecombe |
| | 44.4 | Washington, Franklin, Kannapolis City |
| | 44.2 | Richmond, Wilson, Greene |
| | 44.0 | |
| | 43.8 | Thomasville City, Hoke, Tyrrell, Montgomery, Weldon City |
| | 43.6 | Perquimans |
| | 43.4 | Robeson |
| | 43.2 | |
| | 43.0 | Vance |
| | 42.8 | Northampton |
| | 42.6 | |
| | 42.4 | Bertie |
| | 42.2 | Warren |
| | 42.0 | |

*Scale Scores are rounded up to the nearest two-tenths of a point.



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# Table 8. 1996-97 North Carolina Open-Ended Assessment
# Grade 8 Total Mean Scale Scores*
# By LEA

| State | | 1996-97 LEA Performance |
|---|---|---|
| | 55.4 | Chapel Hill City |
| | ... | |
| | 53.8 | Elkin City |
| | 53.6 | |
| | 53.4 | Graham, Dare |
| | 53.2 | Watauga |
| | ... | |
| | 52.6 | Buncombe |
| | 52.4 | |
| | 52.2 | |
| | 52.0 | Henderson |
| | 51.8 | Swain |
| | 51.6 | Jackson, Transylvania |
| | 51.4 | Mooresville City, Wake |
| | 51.2 | Polk |
| | 51.0 | Cherokee, Clay, Haywood |
| | 50.8 | Chatham, Mount Airy City |
| | 50.6 | Mitchell, Cabarrus |
| | 50.4 | Yancey, Asheville City, Asheboro City |
| | 50.2 | Avery, Stanly, Yadkin, New Hanover |
| | 50.0 | Ashe, Davie, Union, Randolph, Catawba |
| | 49.8 | Macon, Johnston |
| | 49.6 | Forsyth, Hickory City, Wilkes |
| | 49.4 | Stokes, Caldwell |
| | 49.2 | Lincoln, Alleghany, Roanoke Rapids |
| 1996-97 State | 49.0 | Davidson, Iredell-Statesville, Carteret, Surry, Alamance |
| | 48.8 | Moore, Whiteville City, Burke, Shelby City |
| | 48.6 | Alexander, Guilford, Beaufort, Lee, Rockingham |
| | 48.4 | Craven, Onslow |
| | 48.2 | Brunswick, Lenoir, Newton-Conover |
| | 48.0 | Cleveland, Albemarle City, Pasquotank, Rutherford, Rowan, Currituck |
| | 47.8 | McDowell, Hyde, Pender, Granville, Kings Mountain, Orange |
| | 47.6 | Harnett, Madison, Pitt, Duplin |
| | 47.4 | Mecklenburg, Montgomery, Cumberland, Durham, Camden, Nash/Rocky Mount |
| | 47.2 | Pamlico, Kannapolis City, Person |
| | 47.0 | Gaston |
| | 46.8 | Edgecombe |
| | 46.6 | Scotland, Wilson, Sampson, Caswell |
| | 46.4 | Martin, Clinton City |
| | 46.2 | Wayne |
| | 46.0 | Chowan, Franklin, Bladen |
| | 45.8 | |
| | 45.6 | Columbus, Tyrrell, Greene |
| | 45.4 | Thomasville City |
| | 45.2 | |
| | 45.0 | Lexington City, Warren |
| | 44.8 | Gates, Richmond |
| | 44.6 | Robeson |
| | 44.4 | Northampton |
| | 44.2 | Vance |
| | 44.0 | Perquimans, Anson |
| | 43.8 | Jones |
| | 43.6 | |
| | 43.4 | Hertford, Washington |
| | 43.2 | Bertie |
| | 43.0 | Hoke |
| | 42.8 | |
| | 42.6 | |
| | 42.4 | |
| | 42.2 | |
| | 42.0 | |
| | 41.8 | Halifax |
| | ... | |
| | 40.4 | Weldon City |

*Scale Scores are rounded up to the nearest two-tenths of a point.

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Open-Ended Assessment

Grades 5 and 8

# State-Level Score-Point Distributions

Table 9 provides the state-level score-point distributions by item for each of the items on the tests. Statistics are provided for reading and mathematics for grades 5 and 8.

## Table 9. 1996-97 North Carolina Open-Ended Assessment Score Point Distribution by Item

### GRADE 5

#### Reading

| | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| Item 1 (0-3) | 20% | 52% | 23% | 4% |
| Item 2 (0-2) | 19% | 60% | 21% | |
| Item 3 (0-2) | 18% | 61% | 21% | |
| Item 4 (0-3) | 7% | 63% | 28% | 2% |
| Item 5 (0-2) | 7% | 68% | 25% | |
| Item 6 (0-3) | 23% | 64% | 12% | 1% |

#### Mathematics

| | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| Item 7 (0-3) | 81% | 11% | 4% | 4% |
| Item 8 (0-3) | 35% | 30% | 23% | 12% |
| Item 9 (0-3) | 51% | 21% | 13% | 14% |
| Item 10 (0-3) | 51% | 32% | 11% | 6% |
| Item 11 (0-1) | 73% | 27% | | |
| Item 12 (0-3) | 60% | 5% | 33% | 2% |

### GRADE 8

#### Reading

| | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| Item 1 (0-3) | 5% | 49% | 39% | 7% |
| Item 2 (0-3) | 9% | 49% | 38% | 3% |
| Item 3 (0-3) | 13% | 59% | 25% | 3% |
| Item 4 (0-3) | 5% | 59% | 33% | 3% |
| Item 5 (0-3) | 4% | 59% | 34% | 3% |
| Item 6 (0-3) | 5% | 62% | 29% | 4% |

#### Mathematics

| | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| Item 7 (0-2) | 55% | 9% | 37% | |
| Item 8 (0-2) | 46% | 31% | 24% | |
| Item 9 (0-3) | 45% | 25% | 23% | 7% |
| Item 10 (0-3) | 54% | 24% | 10% | 13% |
| Item 11 (0-3) | 52% | 37% | 5% | 6% |
| Item 12 (0-2) | 69% | 14% | 17% | |



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Grades 5 and 8

# Goals and Thinking Skills Measured

Table 10 provides the reading and mathematics goals described in the North Carolina *Standard Course of Study* measured by each of the items on the tests. In addition, the thinking skills measured by each of the items are provided. Goals and thinking skills measured by the items are provided for reading and mathematics for grades 5 and 8.

## Table 10. 1996-97 North Carolina Open-Ended Assessment Goal from the North Carolina *Standard Course of Study* Measured by Each Test Item*

### Grade 5

| Item | Goal |
|---|---|
| 1 | *Communications Skills Goal 2.* Use language for the acquisition, interpretation, and application of information. (Evaluating) |
| 2 | *Communications Skills Goal 2.* Use language for the acquisition, interpretation, and application of information. (Evaluating) |
| 3 | *Communications Skills Goal 2.* Use language for the acquisition, interpretation, and application of information. (Evaluating) |
| 4 | *Communications Skills Goal 3.* Use language for critical analysis and evaluation. (Evaluating) |
| 5 | *Communications Skills Goal 4.* Use language for aesthetic and personal response. (Evaluating) |
| 6 | *Communications Skills Goal 4.* Use language for aesthetic and personal response. (Evaluating) |
| 7 | *Mathematics Goal 6.* Demonstrate an understanding and use of graphing, probability, and statistics. (Applying) |
| 8 | *Mathematics Goal 6.* Demonstrate an understanding and use of graphing, probability, and statistics. (Applying) |
| 9 | *Mathematics Goal 6.* Demonstrate an understanding and use of graphing, probability, and statistics. (Evaluating) |
| 10 | *Mathematics Goal 4.* Understand and use standard units of metric and customary measure. (Application) |
| 11 | *Mathematics Goal 7.* Compute with rational numbers. (Applying) |
| 12 | *Mathematics Goal 5.* Solve problems and reason mathematically. (Analyzing) |

### Grade 8

| Item | Goal |
|---|---|
| 1 | *Communications Skills Goal 2.* Use language for the acquisition, interpretation, and application of information. (Analyzing) |
| 2 | *Communications Skills Goal 3.* Use language for critical analysis and evaluation. (Evaluating) |
| 3 | *Communications Skills Goal 4.* Use language for aesthetic and personal response. (Evaluating) |
| 4 | *Communications Skills Goal 3.* Use language for critical analysis and evaluation. (Evaluating) |
| 5 | *Communications Skills Goal 4.* Use language for aesthetic and personal response. (Generating) |
| 6 | *Communications Skills Goal 2.* Use language for the acquisition, interpretation, and application of information. (Generating) |
| 7 | *Mathematics Goal 4.* Demonstrate an understanding and use of measurement. (Analyzing) |
| 8 | *Mathematics Goal 4.* Demonstrate an understanding and use of measurement. (Analyzing) |
| 9 | *Mathematics Goal 5.* Solve problems and reason mathematically. (Applying) |
| 10 | *Mathematics Goal 5.* Solve problems and reason mathematically. (Analyzing) |
| 11 | *Mathematics Goal 7.* Compute real numbers. (Generating) |
| 12 | *Mathematics Goal 3.* Demonstrate an understanding of patterns, relationships, and pre-algebra. (Evaluating) |

*The thinking skill measured by the item is enclosed in parenthesis after each goal.

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Grades 5 and 8

# State-Level Summary Statistics
## Frequency Distributions and Percentiles

The following charts provide state-level summary statistics including frequency distributions and percentile ranks. The number tested at each grade level, the number of students achieving each of the possible scale scores, the standard deviations, and the percentiles are provided. Summary statistics are provided for reading, mathematics, and the total score for grades 5 and 8.

**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 5 Reading**

| | | | |
|---|---|---|---|
| NUMBER OF STUDENTS WITH VALID SCORES | 89,352 | HIGH SCORE | 80 |
| | | LOW SCORE | 15 |
| | | LOCAL | OPEN-ENDED |
| MEAN | 45.2 | PERCENTILES | SCALE |
| | | 90 | 59.0 |
| STANDARD | | 75 | 51.2 |
| DEVIATION | 11.6 | 50 (MEDIAN) | 42.4 |
| | | 25 | 35.4 |
| VARIANCE | 133.9 | 10 | 28.0 |

**FREQUENCY DISTRIBUTION**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 80 | 49 | 89352 | 0.1 | 100.0 | 99 |
| 79 | 0 | 89303 | 0.0 | 99.9 | 99 |
| 78 | 0 | 89303 | 0.0 | 99.9 | 99 |
| 77 | 235 | 89303 | 0.3 | 99.9 | 99 |
| 76 | 0 | 89068 | 0.0 | 99.7 | 99 |
| 75 | 0 | 89068 | 0.0 | 99.7 | 99 |
| 74 | 0 | 89068 | 0.0 | 99.7 | 99 |
| 73 | 0 | 89068 | 0.0 | 99.7 | 99 |
| 72 | 717 | 89068 | 0.8 | 99.7 | 99 |
| 71 | 0 | 88351 | 0.0 | 98.9 | 99 |
| 70 | 0 | 88351 | 0.0 | 98.9 | 99 |
| 69 | 0 | 88351 | 0.0 | 98.9 | 98 |
| 68 | 1708 | 88351 | 1.9 | 98.9 | 98 |
| 67 | 0 | 86643 | 0.0 | 96.9 | 98 |
| 66 | 0 | 86643 | 0.0 | 96.9 | 97 |
| 65 | 0 | 86643 | 0.0 | 96.9 | 97 |
| 64 | 3166 | 86643 | 3.5 | 96.9 | 96 |
| 63 | 0 | 83477 | 0 0 | 93.4 | 95 |
| 62 | 0 | 83477 | 0.0 | 93.4 | 94 |
| 61 | 5191 | 83477 | 5.8 | 93.4 | 93 |
| 60 | 0 | 78286 | 0.0 | 87.6 | 92 |
| 59 | 0 | 78286 | 0.0 | 87.6 | 90 |
| 58 | 0 | 78286 | 0.0 | 87.6 | 89 |
| 57 | 7368 | 78286 | 8.2 | 87.6 | 87 |
| 56 | 0 | 70918 | 0.0 | 79.3 | 86 |
| 55 | 0 | 70918 | 0.0 | 79.3 | 83 |
| 54 | 0 | 70918 | 0.0 | 79.3 | 81 |
| 53 | 10042 | 70918 | 11.2 | 79.3 | 79 |
| 52 | 0 | 60876 | 0.0 | 68.1 | 77 |
| 51 | 0 | 60876 | 0.0 | 68.1 | 75 |
| 50 | 0 | 60876 | 0.0 | 68.1 | 72 |
| 49 | 0 | 60876 | 0.0 | 68.1 | 70 |
| 48 | 13488 | 60876 | 15.1 | 68.1 | 68 |
| 47 | 0 | 47388 | 0.0 | 53.0 | 65 |
| 46 | 0 | 47388 | 0.0 | 53.0 | 62 |
| 45 | 0 | 47388 | 0.0 | 53.0 | 59 |
| 44 | 0 | 47388 | 0.0 | 53.0 | 56 |
| 43 | 16999 | 47388 | 19.0 | 53.0 | 53 |
| 42 | 0 | 30389 | 0.0 | 34.0 | 48 |
| 41 | 0 | 30389 | 0.0 | 34.0 | 44 |
| 40 | 0 | 30389 | 0.0 | 34.0 | 39 |
| 39 | 13212 | 30389 | 14.8 | 34.0 | 34 |
| 38 | 0 | 17177 | 0.0 | 19.2 | 32 |
| 37 | 0 | 17177 | 0.0 | 19.2 | 29 |
| 36 | 0 | 17177 | 0.0 | 19.2 | 27 |
| 35 | 0 | 17177 | 0.0 | 19.2 | 24 |

**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 5 Reading**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 34 | 0 | 17177 | 0.0 | 19.2 | 22 |
| 33 | 7998 | 17177 | 8.9 | 19.2 | 19 |
| 32 | 0 | 9179 | 0.0 | 10.3 | 17 |
| 31 | 0 | 9179 | 0.0 | 10.3 | 15 |
| 30 | 0 | 9179 | 0.0 | 10.3 | 14 |
| 29 | 0 | 9179 | 0.0 | 10.3 | 12 |
| 28 | 4467 | 9179 | 5.0 | 10.3 | 10 |
| 27 | 0 | 4712 | 0.0 | 5.3 | 9 |
| 26 | 0 | 4712 | 0.0 | 5.3 | 8 |
| 25 | 0 | 4712 | 0.0 | 5.3 | 7 |
| 24 | 0 | 4712 | 0.0 | 5.3 | 6 |
| 23 | 2346 | 4712 | 2.6 | 5.3 | 5 |
| 22 | 0 | 2366 | 0.0 | 2.6 | 4 |
| 21 | 0 | 2366 | 0.0 | 2.6 | 4 |
| 20 | 0 | 2366 | 0.0 | 2.6 | 3 |
| 19 | 1391 | 2366 | 1.6 | 2.6 | 2 |
| 18 | 0 | 975 | 0.0 | 1.1 | 2 |
| 17 | 0 | 975 | 0.0 | 1.1 | 2 |
| 16 | 0 | 975 | 0.0 | 1.1 | 1 |
| 15 | 975 | 975 | 1.1 | 1.1 | 1 |

**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 5 Mathematics**

| | | | |
|---|---|---|---|
| NUMBER OF STUDENTS WITH VALID SCORES | 89,352 | HIGH SCORE | 81 |
| | | LOW SCORE | 36 |
| | | LOCAL | OPEN-ENDED |
| MEAN | 49.9 | PERCENTILES | SCALE |
| | | 90 | 60.5 |
| STANDARD | | 75 | 55.3 |
| DEVIATION | 8.8 | 50 (MEDIAN) | 48.3 |
| | | 25 | 42.0 |
| VARIANCE | 77.8 | 10 | |

**FREQUENCY DISTRIBUTION**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 81 | 41 | 89352 | 0.0 | 100.0 | 99 |
| 80 | 0 | 89311 | 0.0 | 99.9 | 99 |
| 79 | 0 | 89311 | 0.0 | 99.9 | 99 |
| 78 | 0 | 89311 | 0.0 | 99.9 | 99 |
| 77 | 122 | 89311 | 0.1 | 99.9 | 99 |
| 76 | 0 | 89189 | 0.0 | 99.8 | 99 |
| 75 | 0 | 89189 | 0.0 | 99.8 | 99 |
| 74 | 288 | 89189 | 0.3 | 99.8 | 99 |
| 73 | 0 | 88901 | 0.0 | 99.5 | 99 |
| 72 | 0 | 88901 | 0.0 | 99.5 | 99 |
| 71 | 638 | 88901 | 0.7 | 99.5 | 99 |
| 70 | 0 | 88263 | 0.0 | 98.8 | 99 |
| 69 | 988 | 88263 | 1.1 | 98.8 | 98 |
| 68 | 0 | 87275 | 0.0 | 97.6 | 98 |
| 67 | 1596 | 87275 | 1.8 | 97.6 | 97 |
| 66 | 0 | 85679 | 0.0 | 95.9 | 96 |
| 65 | 2530 | 85679 | 2.8 | 95.9 | 95 |
| 64 | 0 | 83149 | 0.0 | 93.0 | 94 |
| 63 | 0 | 83149 | 0.0 | 93.0 | 94 |
| 62 | 3503 | 83149 | 3.9 | 93.0 | 93 |
| 61 | 0 | 79646 | 0.0 | 89.1 | 91 |
| 60 | 4582 | 79646 | 5.1 | 89.1 | 89 |
| 59 | 0 | 75064 | 0.0 | 84.0 | 87 |
| 58 | 5866 | 75064 | 6.6 | 84.0 | 84 |
| 57 | 0 | 69198 | 0.0 | 77.4 | 81 |
| 56 | 7147 | 69198 | 8.0 | 77.4 | 77 |
| 55 | 0 | 62051 | 0.0 | 69.4 | 74 |
| 54 | 0 | 62051 | 0.0 | 69.4 | 72 |
| 53 | 8393 | 62051 | 9.4 | 69.4 | 69 |
| 52 | 0 | 53658 | 0.0 | 60.0 | 65 |
| 51 | 9421 | 53658 | 10.5 | 60.0 | 60 |
| 50 | 0 | 44237 | 0.0 | 49.5 | 56 |
| 49 | 0 | 44237 | 0.0 | 49.5 | 53 |
| 48 | 10224 | 44237 | 11.4 | 49.5 | 49 |
| 47 | 0 | 34013 | 0.0 | 38.1 | 45 |
| 46 | 0 | 34013 | 0.0 | 38.1 | 42 |
| 45 | 10926 | 34013 | 12.2 | 38.1 | 38 |
| 44 | 0 | 23087 | 0.0 | 25.8 | 34 |
| 43 | 0 | 23087 | 0.0 | 25.8 | 29 |
| 42 | 11591 | 23087 | 13.0 | 25.8 | 25 |
| 41 | 0 | 11496 | 0.0 | 12.9 | 23 |
| 40 | 0 | 11496 | 0.0 | 12.9 | 21 |
| 39 | 0 | 11496 | 0.0 | 12.9 | 19 |
| 38 | 0 | 11496 | 0.0 | 12.9 | 16 |
| 37 | 0 | 11496 | 0.0 | 12.9 | 14 |
| 36 | 11496 | 11496 | 12.9 | 12.9 | 12 |



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**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 5 Total Scale Scores**

| | | | |
|---|---|---|---|
| NUMBER OF STUDENTS WITH VALID SCORES | 89,352 | HIGH SCORE | 80 |
| | | LOW SCORE | 25 |
| MEAN | 47.5 | LOCAL PERCENTILES | OPEN-ENDED SCALE |
| | | 90 | 59.0 |
| STANDARD DEVIATION | 9.0 | 75 | 53.3 |
| | | 50 (MEDIAN) | 47.0 |
| | | 25 | 41.4 |
| VARIANCE | 81.4 | 10 | 36.0 |

**FREQUENCY DISTRIBUTION**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 80 | 1 | 89352 | 0.0 | 100.0 | 99 |
| 79 | 4 | 89351 | 0.0 | 100.0 | 99 |
| 78 | 0 | 89347 | 0.0 | 100.0 | 99 |
| 77 | 18 | 89347 | 0.0 | 100.0 | 99 |
| 76 | 1 | 89329 | 0.0 | 99.9 | 99 |
| 75 | 36 | 89328 | 0.0 | 99.9 | 99 |
| 74 | 18 | 89292 | 0.0 | 99.9 | 99 |
| 73 | 82 | 89274 | 0.1 | 99.9 | 99 |
| 72 | 65 | 89192 | 0.1 | 99.8 | 99 |
| 71 | 150 | 89127 | 0.2 | 99.7 | 99 |
| 70 | 176 | 88977 | 0.2 | 99.6 | 99 |
| 69 | 168 | 88801 | 0.2 | 99.4 | 99 |
| 68 | 319 | 88633 | 0.4 | 99.2 | 99 |
| 67 | 302 | 88314 | 0.3 | 98.8 | 98 |
| 66 | 566 | 88012 | 0.6 | 98.5 | 98 |
| 65 | 765 | 87446 | 0.9 | 97.8 | 97 |
| 64 | 631 | 86681 | 0.7 | 97.0 | 97 |
| 63 | 1044 | 86050 | 1.2 | 96.3 | 96 |
| 62 | 1335 | 85006 | 1.5 | 95.1 | 95 |
| 61 | 1094 | 83671 | 1.2 | 93.6 | 93 |
| 60 | 1848 | 82577 | 2.1 | 92.4 | 92 |
| 59 | 2056 | 80729 | 2.3 | 90.3 | 90 |
| 58 | 1707 | 78673 | 1.9 | 88.0 | 88 |
| 57 | 2599 | 76966 | 2.9 | 86.1 | 86 |
| 56 | 1645 | 74367 | 1.8 | 83.2 | 83 |
| 55 | 2695 | 72722 | 3.0 | 81.4 | 81 |
| 54 | 3524 | 70027 | 3.9 | 78.4 | 78 |
| 53 | 3213 | 66503 | 3.6 | 74.4 | 74 |
| 52 | 4043 | 63290 | 4.5 | 70.8 | 70 |
| 51 | 3649 | 59247 | 4.1 | 66.3 | 66 |
| 50 | 4337 | 55598 | 4.9 | 62.2 | 62 |
| 49 | 1786 | 51261 | 2.0 | 57.4 | 57 |
| 48 | 4133 | 49475 | 4.6 | 55.4 | 55 |
| 47 | 5429 | 45342 | 6.1 | 50.7 | 50 |
| 46 | 4004 | 39913 | 4.5 | 44.7 | 44 |
| 45 | 2894 | 35909 | 3.2 | 40.2 | 40 |
| 44 | 3262 | 33015 | 3.6 | 36.9 | 36 |
| 43 | 4651 | 29753 | 5.2 | 33.3 | 33 |
| 42 | 3915 | 25102 | 4.4 | 28.1 | 28 |
| 41 | 1172 | 21187 | 1.3 | 23.7 | 23 |
| 40 | 2430 | 20015 | 2.7 | 22.4 | 22 |
| 39 | 3492 | 17585 | 3.9 | 19.7 | 19 |
| 38 | 2249 | 14093 | 2.5 | 15.8 | 15 |
| 37 | 2175 | 11844 | 2.4 | 13.3 | 13 |
| 36 | 880 | 9669 | 1.0 | 10.8 | 10 |
| 35 | 1134 | 8789 | 1.3 | 9.8 | 9 |
| 34 | 2177 | 7655 | 2.4 | 8.6 | 8 |
| 33 | 667 | 5478 | 0.7 | 6.1 | 6 |
| 32 | 1657 | 4811 | 1.9 | 5.4 | 5 |
| 31 | 25 | 3154 | 0.0 | 3.5 | 3 |
| 30 | 437 | 3129 | 0.5 | 3.5 | 3 |
| 29 | 1075 | 2692 | 1.2 | 3.0 | 3 |
| 28 | 179 | 1617 | 0.2 | 1.8 | 1 |
| 27 | 757 | 1438 | 0.8 | 1.6 | 1 |
| 26 | 0 | 681 | 0.0 | 0.8 | 1 |
| 25 | 681 | 681 | 0.8 | 0.8 | 1 |

**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 8 Reading**

| | | | |
|---|---|---|---|
| NUMBER OF STUDENTS WITH VALID SCORES | 86,479 | HIGH SCORE | 79 |
| | | LOW SCORE | 12 |
| | | LOCAL | OPEN-ENDED |
| MEAN | 46.8 | PERCENTILES | SCALE |
| | | 90 | 57.6 |
| STANDARD | | 75 | 52.2 |
| DEVIATION | 10.0 | 50 (MEDIAN) | 45.5 |
| | | 25 | 38.4 |
| VARIANCE | 100.9 | 10 | 31.9 |

**FREQUENCY DISTRIBUTION**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 79 | 27 | 86479 | 0.0 | 99.9 | 99 |
| 78 | 0 | 86452 | 0.0 | 99.9 | 99 |
| 77 | 0 | 86452 | 0.0 | 99.9 | 99 |
| 76 | 0 | 86452 | 0.0 | 99.9 | 99 |
| 75 | 93 | 86452 | 0.1 | 99.9 | 99 |
| 74 | 0 | 86359 | 0.0 | 99.8 | 99 |
| 73 | 0 | 86359 | 0.0 | 99.8 | 99 |
| 72 | 263 | 86359 | 0.3 | 99.8 | 99 |
| 71 | 0 | 86096 | 0.0 | 99.5 | 99 |
| 70 | 0 | 86096 | 0.0 | 99.5 | 99 |
| 69 | 614 | 86096 | 0.7 | 99.5 | 99 |
| 68 | 0 | 85482 | 0.0 | 98.7 | 99 |
| 67 | 0 | 85482 | 0.0 | 98.7 | 98 |
| 66 | 1306 | 85482 | 1.5 | 98.7 | 98 |
| 65 | 0 | 84176 | 0.0 | 97.2 | 98 |
| 64 | 0 | 84176 | 0.0 | 97.2 | 97 |
| 63 | 2539 | 84176 | 2.8 | 97.2 | 97 |
| 62 | 0 | 81637 | 0.0 | 94.3 | 96 |
| 61 | 0 | 81637 | 0.0 | 94.3 | 95 |
| 60 | 4659 | 81637 | 5.2 | 94.3 | 94 |
| 59 | 0 | 76978 | 0.0 | 88.9 | 92 |
| 58 | 0 | 76978 | 0.0 | 88.9 | 91 |
| 57 | 6737 | 76978 | 7.5 | 88.9 | 89 |
| 56 | 0 | 70241 | 0.0 | 81.1 | 86 |
| 55 | 0 | 70241 | 0.0 | 81.1 | 84 |
| 54 | 8610 | 70241 | 9.6 | 81.1 | 81 |
| 53 | 0 | 61631 | 0.0 | 71.2 | 78 |
| 52 | 0 | 61631 | 0.0 | 71.2 | 74 |
| 51 | 10459 | 61631 | 11.7 | 71.2 | 71 |
| 50 | 0 | 51172 | 0.0 | 59.1 | 67 |
| 49 | 0 | 51172 | 0.0 | 59.1 | 63 |
| 48 | 12079 | 51172 | 13.5 | 59.1 | 59 |
| 47 | 0 | 39093 | 0.0 | 45.2 | 56 |
| 46 | 0 | 39093 | 0.0 | 45.2 | 52 |
| 45 | 0 | 39093 | 0.0 | 45.2 | 49 |
| 44 | 13146 | 39093 | 14.7 | 45.2 | 45 |
| 43 | 0 | 25947 | 0.0 | 30.0 | 41 |
| 42 | 0 | 25947 | 0.0 | 30.0 | 38 |
| 41 | 0 | 25947 | 0.0 | 30.0 | 34 |
| 40 | 12875 | 25947 | 14.4 | 30.0 | 30 |
| 39 | 0 | 13072 | 0.0 | 15.1 | 27 |
| 38 | 0 | 13072 | 0.0 | 15.1 | 24 |
| 37 | 0 | 13072 | 0.0 | 15.1 | 21 |
| 36 | 0 | 13072 | 0.0 | 15.1 | 18 |
| 35 | 6674 | 13072 | 7.5 | 15.1 | 15 |
| 34 | 0 | 6398 | 0.0 | 7.4 | 13 |
| 33 | 0 | 6398 | 0.0 | 7.4 | 12 |
| 32 | 0 | 6398 | 0.0 | 7.4 | 10 |
| 31 | 0 | 6398 | 0.0 | 7.4 | 9 |
| 30 | 3030 | 6398 | 3.4 | 7.4 | 7 |



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**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 8 Reading**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 29 | 0 | 3368 | 0.0 | 3.9 | 6 |
| 28 | 0 | 3368 | 0.0 | 3.9 | 5 |
| 27 | 0 | 3368 | 0.0 | 3.9 | 5 |
| 26 | 0 | 3368 | 0.0 | 3.9 | 4 |
| 25 | 1523 | 3368 | 1.7 | 3.9 | 3 |
| 24 | 0 | 1845 | 0.0 | 2.1 | 3 |
| 23 | 0 | 1845 | 0.0 | 2.1 | 3 |
| 22 | 0 | 1845 | 0.0 | 2.1 | 2 |
| 21 | 845 | 1845 | 0.9 | 2.1 | 2 |
| 20 | 0 | 1000 | 0.0 | 1.2 | 2 |
| 19 | 0 | 1000 | 0.0 | 1.2 | 2 |
| 18 | 0 | 1000 | 0.0 | 1.2 | 1 |
| 17 | 0 | 1000 | 0.0 | 1.2 | 1 |
| 16 | 506 | 1000 | 0.6 | 1.2 | 1 |
| 15 | 0 | 494 | 0.0 | 0.6 | 1 |
| 14 | 0 | 494 | 0.0 | 0.6 | 1 |
| 13 | 0 | 494 | 0.0 | 0.6 | 1 |
| 12 | 494 | 494 | 0.6 | 0.6 | 1 |

**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 8 Mathematics**

| | | | |
|---|---|---|---|
| NUMBER OF STUDENTS WITH VALID SCORES | 86,479 | HIGH SCORE | 78 |
| | | LOW SCORE | 35 |
| | | LOCAL | OPEN-ENDED |
| MEAN | 50.0 | PERCENTILES | SCALE |
| | | 90 | 63.5 |
| STANDARD | | 75 | 56.2 |
| DEVIATION | 10.3 | 50 (MEDIAN) | 47.7 |
| | | 25 | 40.9 |
| VARIANCE | 106.1 | 10 | |

**FREQUENCY DISTRIBUTION**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 78 | 413 | 86479 | 0.5 | 99.9 | 99 |
| 77 | 0 | 86066 | 0.0 | 99.4 | 99 |
| 76 | 0 | 86066 | 0.0 | 99.4 | 99 |
| 75 | 0 | 86066 | 0.0 | 99.4 | 99 |
| 74 | 784 | 86066 | 0.9 | 99.4 | 99 |
| 73 | 0 | 85282 | 0.0 | 98.5 | 99 |
| 72 | 1441 | 85282 | 1.7 | 98.5 | 98 |
| 71 | 0 | 83841 | 0.0 | 96.8 | 97 |
| 70 | 0 | 83841 | 0.0 | 96.8 | 97 |
| 69 | 2073 | 83841 | 2.4 | 96.8 | 96 |
| 68 | 0 | 81768 | 0.0 | 94.5 | 95 |
| 67 | 2670 | 81768 | 3.1 | 94.5 | 94 |
| 66 | 0 | 79098 | 0.0 | 91.4 | 93 |
| 65 | 0 | 79098 | 0.0 | 91.4 | 92 |
| 64 | 3269 | 79098 | 3.8 | 91.4 | 91 |
| 63 | 0 | 75829 | 0.0 | 87.6 | 89 |
| 62 | 3970 | 75829 | 4.6 | 87.6 | 87 |
| 61 | 0 | 71859 | 0.0 | 83.0 | 85 |
| 60 | 4379 | 71859 | 5.1 | 83.0 | 83 |
| 59 | 0 | 67480 | 0.0 | 78.0 | 81 |
| 58 | 0 | 67480 | 0.0 | 78.0 | 80 |
| 57 | 5250 | 67480 | 6.1 | 78.0 | 78 |
| 56 | 0 | 62230 | 0.0 | 71.9 | 75 |
| 55 | 5894 | 62230 | 6.8 | 71.9 | 71 |
| 54 | 0 | 56336 | 0.0 | 65.1 | 68 |
| 53 | 6670 | 56336 | 7.7 | 65.1 | 65 |
| 52 | 0 | 49666 | 0.0 | 57.4 | 62 |
| 51 | 0 | 49666 | 0.0 | 57.4 | 60 |
| 50 | 7537 | 49666 | 8.7 | 57.4 | 57 |
| 49 | 0 | 42129 | 0.0 | 48.7 | 54 |
| 48 | 0 | 42129 | 0.0 | 48.7 | 51 |
| 47 | 8493 | 42129 | 9.8 | 48.7 | 48 |
| 46 | 0 | 33636 | 0.0 | 38.9 | 45 |
| 45 | 0 | 33636 | 0.0 | 38.9 | 41 |
| 44 | 9641 | 33636 | 11.1 | 38.9 | 38 |
| 43 | 0 | 23995 | 0.0 | 27.7 | 33 |
| 42 | 10872 | 23995 | 12.6 | 27.7 | 27 |
| 41 | 0 | 13123 | 0.0 | 15.2 | 25 |
| 40 | 0 | 13123 | 0.0 | 15.2 | 24 |
| 39 | 0 | 13123 | 0.0 | 15.2 | 22 |
| 38 | 0 | 13123 | 0.0 | 15.2 | 20 |
| 37 | 0 | 13123 | 0.0 | 15.2 | 18 |
| 36 | 0 | 13123 | 0.0 | 15.2 | 17 |
| 35 | 13123 | 13123 | 15.2 | 15.2 | 15 |

**North Carolina End-of-Grade Testing Program 1996-97**
**Open-Ended - Grade 8 Total Scale Scores**

| | | | |
|---|---|---|---|
| NUMBER OF STUDENTS WITH VALID SCORES | 86,479 | HIGH SCORE | 78 |
| | | LOW SCORE | 24 |
| | | LOCAL | OPEN-ENDED |
| MEAN | 48.5 | PERCENTILES | SCALE |
| | | 90 | 60.0 |
| STANDARD | 9.1 | 75 | 54.5 |
| DEVIATION | | 50 (MEDIAN) | 48.0 |
| | | 25 | 41.8 |
| VARIANCE | 82.7 | 10 | 37.2 |

**FREQUENCY DISTRIBUTION**

| SCALE SCORE | FREQUENCY | CUMULATIVE FREQUENCY | PERCENT | CUMULATIVE PERCENT | PERCENTILE |
|---|---|---|---|---|---|
| 78 | 2 | 86479 | 0.0 | 96.8 | 99 |
| 77 | 9 | 86477 | 0.0 | 96.8 | 99 |
| 76 | 1 | 86468 | 0.0 | 96.7 | 99 |
| 75 | 25 | 86467 | 0.0 | 96.7 | 99 |
| 74 | 21 | 86442 | 0.0 | 96.7 | 99 |
| 73 | 61 | 86421 | 0.1 | 96.7 | 99 |
| 72 | 127 | 86360 | 0.1 | 96.6 | 99 |
| 71 | 43 | 86233 | 0.0 | 96.5 | 99 |
| 70 | 186 | 86190 | 0.2 | 96.4 | 99 |
| 69 | 437 | 86004 | 0.5 | 96.2 | 99 |
| 68 | 125 | 85567 | 0.1 | 95.7 | 98 |
| 67 | 629 | 85442 | 0.7 | 95.6 | 98 |
| 66 | 831 | 84813 | 0.9 | 94.9 | 98 |
| 65 | 785 | 83982 | 0.9 | 94.0 | 97 |
| 64 | 658 | 83197 | 0.7 | 93.1 | 96 |
| 63 | 1564 | 82539 | 1.7 | 92.3 | 95 |
| 62 | 1764 | 80975 | 2.0 | 90.6 | 93 |
| 61 | 1358 | 79211 | 1.5 | 88.6 | 91 |
| 60 | 2210 | 77853 | 2.5 | 87.1 | 90 |
| 59 | 1816 | 75643 | 2.0 | 84.6 | 87 |
| 58 | 2064 | 73827 | 2.3 | 82.6 | 85 |
| 57 | 2767 | 71763 | 3.1 | 80.3 | 82 |
| 56 | 2350 | 68996 | 2.6 | 77.2 | 79 |
| 55 | 3289 | 66646 | 3.7 | 74.6 | 77 |
| 54 | 2555 | 63357 | 2.9 | 70.9 | 73 |
| 53 | 3179 | 60802 | 3.6 | 68.0 | 70 |
| 52 | 4282 | 57623 | 4.8 | 64.5 | 66 |
| 51 | 2895 | 53341 | 3.2 | 59.7 | 61 |
| 50 | 2701 | 50446 | 3.0 | 56.4 | 58 |
| 49 | 3777 | 47745 | 4.2 | 53.4 | 55 |
| 48 | 3714 | 43968 | 4.2 | 49.2 | 50 |
| 47 | 2514 | 40254 | 2.8 | 45.0 | 46 |
| 46 | 5101 | 37740 | 5.7 | 42.2 | 43 |
| 45 | 2897 | 32639 | 3.2 | 36.5 | 37 |
| 44 | 3815 | 29742 | 4.3 | 33.3 | 34 |
| 43 | 2617 | 25927 | 2.9 | 29.0 | 29 |
| 42 | 3537 | 23310 | 4.0 | 26.1 | 26 |
| 41 | 3490 | 19773 | 3.9 | 22.1 | 22 |
| 40 | 2037 | 16283 | 2.3 | 18.2 | 18 |
| 39 | 1036 | 14246 | 1.2 | 15.9 | 16 |
| 38 | 4882 | 13210 | 5.5 | 14.8 | 15 |
| 37 | 424 | 8328 | 0.5 | 9.3 | 9 |
| 36 | 793 | 7904 | 0.9 | 8.8 | 9 |
| 35 | 2420 | 7111 | 2.7 | 8.0 | 8 |
| 34 | 166 | 4691 | 0.2 | 5.2 | 5 |
| 33 | 1846 | 4525 | 2.1 | 5.1 | 5 |
| 32 | 65 | 2679 | 0.1 | 3.0 | 3 |
| 31 | 161 | 2614 | 0.2 | 2.9 | 3 |
| 30 | 927 | 2453 | 1.0 | 2.7 | 2 |
| 29 | 67 | 1526 | 0.1 | 1.7 | 1 |
| 28 | 597 | 1459 | 0.7 | 1.6 | 1 |
| 27 | 30 | 862 | 0.0 | 1.0 | 1 |
| 26 | 391 | 832 | 0.4 | 0.9 | 1 |
| 25 | 0 | 441 | 0.0 | 0.5 | 1 |
| 24 | 441 | 441 | 0.5 | 0.5 | 1 |

1996-97

North Carolina

Open-Ended Assessment

Grades 5 and 8

## Copies of the Grades 5 and 8 Open-Ended Tests

The following pages provide copies of the Open-Ended Assessment instruments administered to students in grades 5 and 8 during the 1996-97 school year. State-level score-point distributions have been provided for each item on the test for each grade level.

SIDE 1

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**School Name**

**Teacher Name**

1. **What is your sex?**
   - Male
   - Female

2. **What is your ethnic group?**
   - American Indian
   - Asian
   - Black
   - Hispanic
   - Multi-racial
   - White
   - Other

**Student's Last Name** | **First Name**

## 1996-97 North Carolina Open-Ended Assessment Student Performance at Grade 5

The number of possible score points for each test item is depicted along with the percentage of students statewide achieving each of the scores.

*Pages containing only test items may be reproduced at the local level. Do not reproduce reading passages because of copyright restrictions.*

**North Carolina Open-Ended Assessment**
**Grade 5**
**1996-97**

## TO BE COMPLETED BY THE TEACHER OR COUNSELOR

1. **Is this student following the North Carolina *Standard Course of Study*?**
   - Yes
   - No

2. **Is this student participating in an IASA Title I Program this year? [If yes, mark the choice or choices that most accurately describe(s) the program.]**
   - No
   - Yes, School-Wide Program
   - Yes, Targeted Assistance Program
   - Yes, Migrant Program

3. **Student Date of Birth**

| MONTH | DAY | YEAR |
|---|---|---|
| Jan 1 | 0 0 | 1981 |
| Feb 2 | 1 1 | 1982 |
| Mar 3 | 2 2 | 1983 |
| Apr 4 | 3 3 | 1984 |
| May 5 | 4 4 | 1985 |
| Jun 6 | 5 5 | 1986 |
| Jul 7 | 6 6 | 1987 |
| Aug 8 | 7 7 | 1988 |
| Sep 9 | 8 8 | 1989 |
| Oct 10 | 9 9 | 1990 |
| Nov 11 | | 1991 |
| Dec 12 | | Other |

4. **Social Security or Alternative SIMS Social Security Number**

3. **Indicate whether or not this student is currently identified as exceptional in accordance with the state regulations *Procedures Governing Programs and Services for Children with Special Needs*. (Choose one of the following.)**
   - Not identified as an Exceptional Student
   - Academically Gifted
   - Behaviorally-Emotionally Handicapped
   - Hearing Impaired
   - Educable Mentally Handicapped
   - Specific Learning Disabled
   - Speech-Language Impaired
   - Visually Impaired
   - Other Health Impaired
   - Orthopedically Impaired
   - Traumatic Brain Injured
   - Other Exceptional Classifications

4. **Mark any of the following which apply to this student.**
   - Limited English Proficiency
   - Learning Disabled - Reading
   - Learning Disabled - Mathematics
   - Learning Disabled - Written Expression
   - Learning Disabled - Other

5. **Which, if any, of the following modifications are being used by this student during this test administration? (Mark all that apply.)**
   - Braille Edition
   - Large Print Edition
   - Assistive Technology
   - Braille Writer
   - Cranmer Abacus
   - Dictation to Scribe
   - Interpreter Signs Test
   - Magnification Devices
   - Student Marks in Test Book
   - Test Administrator Reads Test Aloud (in English)
   - Use of Typewriter or Word Processor
   - Hospital/Home Testing
   - Multiple Test Sessions
   - Scheduled Expanded Time
   - Testing in a Separate Room
   - English/Native Language Dictionary or English/Native Electronic Transfer
   - Other

**SPECIAL CODES FOR SCHOOL USE ONLY**

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*The passage below is about what happened when three boys went for a ride in an airboat in the Florida Everglades. Read the passage and answer the questions.*

As darkness fell, the boys prepared to go frogging. Jeff was offered one of Billie's long-sleeved jackets to keep mosquitoes off his arms, and he chose the one with the red and yellow stripes.

It was a warm night for November. With spears and buckets, the three boys set out in the airboat toward the lagoon in the mangrove swamp where the frogs swam about in the water or sat on the rocks, croaking their grumpy night songs. Jeff looked all around, wide-eyed, as though at any moment creatures of the swamp might rise up out of the dark water and surprise him.

Slowly the boat moved in on the rocks where the frogs sat stunned as the light overpowered them. Billie nodded to Charlie when he had the light trained just so. *Whup!* Charlie moved so swiftly that the suddenness of his throw startled Jeff. Instantly the spear was retrieved with a frog on the end of it, and again the spear flashed out in the gleam of the light and got another.

"Can I try?" Jeff shouted. Billie cut off the motor.

"Hold it like this," he said, showing Jeff how to grip the spear. "Aim it, and throw."

"Now!" said Charlie.

Jeff stood for a moment, aiming it carefully as he had seen Charlie do, then—*whup*.

It happened so quickly that none of the boys knew quite how, but somehow Jeff went along with the spear and into the two-foot deep water as the boat bobbed back and forth and the frogs scattered in all directions.

Billie looked over the side of the boat to see Jeff groping up out of the mud, and he threw back his head in a shriek of laughter.

Suddenly it turned to a scream. There was a roaring hiss from the trees on the bank, and an alligator rushed toward them. Even before Billie had seen the length of the tail and the huge body, he knew it was the Big One. He remembered that deep hiss, that seemed to shake the flesh off one's bones, like wind in a cavern. He yelled at Jeff to get into the boat.

With lightning speed the huge 'gator came crashing through the underbrush, the wind rushing out of the huge mouth with rows and rows of dagger teeth, and the boys screamed together in terror, Jeff loudest of all as he tried to get to his feet in the muck.

"The light, Billie, the light!" Charlie yelled, scrambling to get the motor started again.

Never had Billie's fingers felt so much like thumbs. Desperately he struggled to turn the light in the eyes of the beast, but it didn't seem to move. Frantically he picked up a spear, just as Jeff dived headlong into the boat, one muddy foot kicking Billie's hand and knocking the spear into the water. With a roar the motor caught and rose higher and higher as the airboat tipped this way and that and Charlie tried to get it pointed into the open water again.

The Big One charged. *Whop*, went the tail against the side of the boat, and the small craft spun crazily around, as though it were caught in a whirlpool. *Whop*, went the tail again, and the boys fell against each other.

Again Billie grabbed the light and this time it pivoted directly into the alligator's eyes. The monster seemed to freeze in confusion, still hissing, and then, from behind the huge animal, in the light of the lamp, came a small baby 'gator slithering under its mother's belly, and then another.

"Billie!" Charlie yelled above the noise of the engine. "Look! Baby 'gators!"

"The Big One's a mother!" Billy screamed back.

But Jeff didn't care if she was the great-grandmother of all the alligators in the Everglades. All he wanted to do was get away. With a roar the boat took off full speed, and moments later they were far out in the middle of the lagoon.

*"To Walk the Sky Path"* by Phyllis Reynolds Naylor. Copyright 1973 by Phyllis Reynolds Naylor. Reprinted by permission of John Hawkins & Associates, Inc.

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1. Who do you think was the leader of the three boys–Jeff, Billie, or Charlie?

   Explain your choice using specific examples from the passage.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 20% | 52% | 23% | 4% |

2. Why do you think the "Big One" attacked the airboat?

   Explain your answer using specific examples from the passage.

| 0 | 1 | 2 |
|---|---|---|
| 19% | 60% | 21% |

3. What do you think helped the boys the ***most*** to escape the "Big One"?

Explain your answer using specific examples from the passage.

| 0 | 1 | 2 |
|---|---|---|
| 18% | 61% | 21% |

52

4. In what ways did the author make the passage exciting?

   Explain your answer using specific examples from the passage.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 7% | 63% | 28% | 2% |

5. After meeting the "Big One," do you think Jeff, Billie, and Charlie would want to go frogging again?

   Explain your answer using specific examples from the passage.

| 0 | 1 | 2 |
|---|---|---|
| 7% | 68% | 25% |

6. Directions: Write a paragraph on the topic below.

**Jeff, Billie, and Charlie had an exciting night in the Everglades.**

**Describe the swamp the boys visited at night so that your reader will be able to picture it. Include specific examples from the passage in your description.**

**As you write your paragraph, remember to:**

- Use words that will help your reader picture the swamp the boys visited at night.
- Write in complete sentences.
- Use correct grammar, spelling, punctuation, and capitalization.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 23% | 64% | 12% | 1% |

7. Jeff, Billie, and Charlie went frogging on five nights. They caught 20, 40, 30, 15, and 18 frogs.

   How would the median of their catches change if they caught 26 and 34 frogs the next two nights they went frogging?

   _____

   Explain or show how you determined your answer.

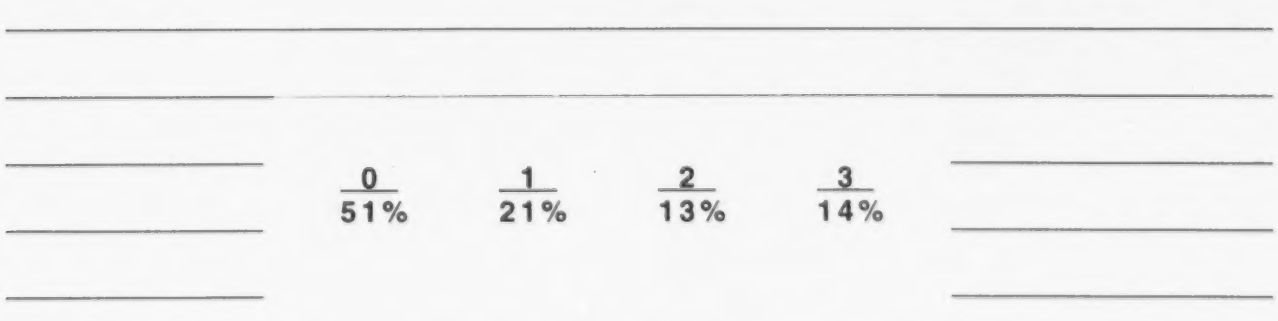
| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 81% | 11% | 4% | 4% |

The chart below shows the number of frogs Jeff, Billie, and Charlie caught during one week. Study the chart and answer questions 8 and 9.

| Days | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|---|
| Frogs Caught | 0 | 10 | 5 | 25 | 15 | 10 | 40 |

8. Make a properly titled and labeled graph which shows the number of frogs the boys caught each day.

9. Draw at least three conclusions based on the graph and/or chart above.



10. Billie said he could throw a spear 45 feet. Charlie said he could throw a spear 20 yards. Jeff said Billie could throw a spear farther than Charlie. Was Jeff right? _____

Explain how you determined your answer.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 51% | 32% | 11% | 6% |

11. Billie made a long distance telephone call to the Department of Natural Resources. He wanted to find out the size of the largest alligator ever captured from the swamp. He was charged $1.20 for the first three minutes and $ .50 a minute after that.

If the call cost Billie $3.20, how many minutes did he talk on the telephone?

_____ minutes

| 0 | 1 |
|---|---|
| 73% | 27% |

12. Three alligators were captured in the swamp so they could be moved to a protected area. Before they were released, the three alligators were weighed together on a scale. The alligators' total weight was 2,900 pounds. When one alligator was removed, the scale showed 1,359 pounds. When the second alligator was removed, the scale showed 610 pounds.

How much did the second alligator weigh? _____ pounds

Explain how you determined your answer.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 60% | 5% | 33% | 2% |

SIDE 1

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**School Name**

**Teacher Name**

1. What is your sex?
   Male  Female

2. What is your ethnic group?
   - American Indian
   - Asian
   - Black
   - Hispanic
   - Multi-racial
   - White
   - Other

**Student's Last Name** | **First Name**

## 1996-97 North Carolina Open-Ended Assessment Student Performance at Grade 8

The number of possible score points for each test item is depicted along with the percentage of students statewide achieving each of the scores.

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**North Carolina Open-Ended Assessment**
**Grade 8**
**1996-97**

**TO BE COMPLETED BY THE TEACHER OR COUNSELOR**

1. Is this student following the North Carolina *Standard Course of Study*?
   Yes  No

2. Is this student participating in an IASA Title I Program this year? [If yes, mark the choice or choices that most accurately describe(s) the program.]
   - No
   - Yes, School-Wide Program
   - Yes, Targeted Assistance Program
   - Yes, Migrant Program

3. Indicate whether or not this student is currently identified as exceptional in accordance with the state regulations *Procedures Governing Programs and Services for Children with Special Needs*. (Choose one of the following.)
   - Not identified as an Exceptional Student
   - Academically Gifted
   - Behaviorally-Emotionally Handicapped
   - Hearing Impaired
   - Educable Mentally Handicapped
   - Specific Learning Disabled
   - Speech-Language Impaired
   - Visually Impaired
   - Other Health Impaired
   - Orthopedically Impaired
   - Traumatic Brain Injured
   - Other Exceptional Classifications

4. Mark any of the following which apply to this student.
   - Limited English Proficiency
   - Learning Disabled - Reading
   - Learning Disabled - Mathematics
   - Learning Disabled - Written Expression
   - Learning Disabled - Other

5. Which, if any, of the following modifications are being used by this student during this test administration? (Mark all that apply.)
   - Braille Edition
   - Large Print Edition
   - Assistive Technology
   - Braille Writer
   - Cranmer Abacus
   - Dictation to Scribe
   - Interpreter Signs Test
   - Magnification Devices
   - Student Marks in Test Book
   - Test Administrator Reads Test Aloud (in English)
   - Use of Typewriter or Word Processor
   - Hospital/Home Testing
   - Multiple Test Sessions
   - Scheduled Expanded Time
   - Testing in a Separate Room
   - English/Native Language Dictionary or English/Native Electronic Transfer
   - Other

| 3. Student Date of Birth | | |
|---|---|---|
| MONTH | DAY | YEAR |
| Jan (1) | | 1981 |
| Feb (2) | | 1982 |
| Mar (3) | 0 0 | 1983 |
| Apr (4) | 1 1 | 1984 |
| May (5) | 2 2 | 1985 |
| Jun (6) | 3 3 | 1986 |
| Jul (7) | 4 | 1987 |
| Aug (8) | 5 | 1988 |
| Sep (9) | 6 | 1989 |
| Oct (10) | 7 | 1990 |
| Nov (11) | 8 | 1991 |
| Dec (12) | 9 | Other |

4. Social Security or Alternative SIMS Social Security Number

SPECIAL CODES FOR SCHOOL USE ONLY

60

*Read the two passages below about the coastal region of North Carolina and answer the questions that follow.*

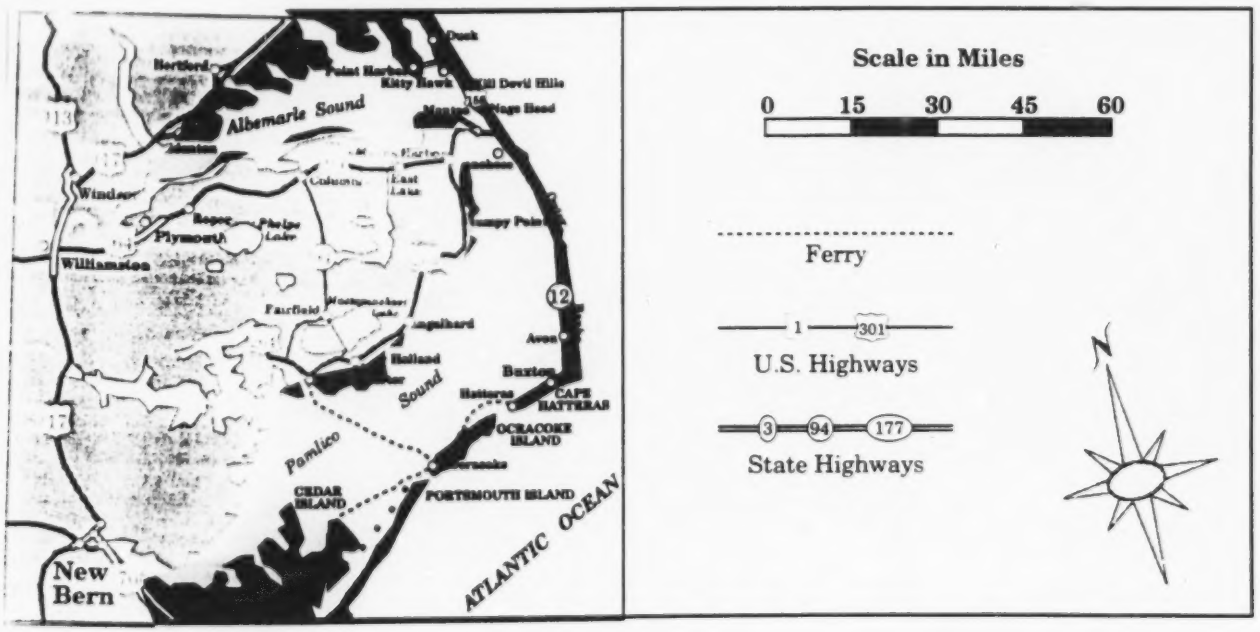
## The Outer Banks

The most unusual land feature of the Tidelands is the Outer Banks. Locate the Outer Banks on the map before you go on and read about this unusual formation. The Outer Banks are a chain of low, very narrow, very sandy islands. They are completely separated from the mainland. They stretch for more than 175 miles all along the coastline of our state. They are sometimes called "the Barrier Islands" or our "double coastline." Look back at the map again. As you can see, North Carolina does in fact have two coastlines: the coastline of the "mainland" and the second coastline of the Outer Banks.

All of these islands, and the water between them and the mainland, are a part of the state of North Carolina. Individual county lines run through this water to include these islands. Thus, they are each a part of one county or another.

Every day, waves and tides churn up the shallow waters between the mainland and the Outer Banks. Storms can slice through entire islands, make new openings or inlets. The shifting sands, shallow waters, and changing coastline are all reasons that sailing these waters is dangerous. This is why the area has earned the nickname "Graveyard of the Atlantic."

Charlet, James D., William S. Powell, and Dixie Lee Spielgel. *North Carolina: Our People, Places, and Past.* Durham, N.C.: Carolina Academic Press, 1987. ISBN 0-89089-319-5



# The Gray Man of Hatteras

THE YEAR WAS 1966 AND it was just four days until Labor Day. The Coast Guard of Cape Hatteras was busy with one of its assigned chores, warning the summer visitors as well as the year-round residents of the approach of that year's big hurricane. It was certain that the big wind was expected to pass directly over Cape Hatteras, and the word was either to get out while there was time or else to get to a place of safety with all deliberate speed.

Already the wind was blowing a full gale, and the mist and spume from the sea rolled over the beaches as Apprentice Seaman Brooks, newly out of the boot camp at the Coast Guard Academy, led his detachment of men along the beach near Cape Point.

They had just visited the last cottage near the beach, and their work was completed. They were walking back to the spot where they had parked their beach vehicle.

Then they saw it! There, standing just in the break of the seaward dunes, was the figure of a human wearing a sou'wester and slowly swinging his right arm as though to motion someone to come back from the beach and seek the shelter of the dunes.

All but one of the men in the party knew immediately what they were seeing. That one, an outlander recently assigned to service on the Outer Banks, ran toward the shadowy figure, shouting a warning as he ran. The figure turned and faced the runner until barely ten feet separated them. Then it vanished. It just disappeared into the air.

If it was a human, there was no place for him to have hidden. There were no footprints where he had been standing. A search of the nearby beach produced nothing, and the newcomer began to doubt his own eyesight.

When he returned to his group, they explained to the newcomer as gently as they could that what had been seen was not a human but was the familiar Gray Man of Hatteras.

Since the early nineteen hundreds the Gray Man has appeared on that stretch of beach between Cape Point and the Hatteras Lighthouse every time a hurricane threatens. He always appears to be trying to warn the residents to take shelter from the approaching storm, and he always walks that particular stretch of beach.

Some of the old-timers will tell you that this is the spirit of a man who was actually named Gray and who lived near Cape Point in the late eighteen hundreds. He had drowned in a late, sudden, and unexpected storm on that beach. They say he never fails to give his warning, and he is never wrong about the coming storm. He is just as dependable as a barometer.

He is known as a friend and is nothing at all to be afraid of. He loves his people, and he wants to protect them from harm.

Although she is not old enough to remember Gray when he was alive, Mrs. Gene Austin of Hatteras Village has heard Guardsman Brooks tell of the apparition many times. So has Miss Mae Austin of the same village.

"He was one of us in life, and he is one of us still" is the way most of the people think of him.

Whedbee, Charles Harry. *Outer Banks Mysteries and Seaside Stories.* Winston-Salem, N.C.: John F. Blair, 1980. ISBN 0-89587-006-1 CC# 78-58535

1. The passages *The Outer Banks* and *The Gray Man of Hatteras* illustrate two different purposes of writing. Explain how the purposes of these two passages are different.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 5% | 49% | 39% | 7% |

2. If explorers of North Carolina's coast from the 1500s, such as Ralph Lane and John White, were to return today, do you think they would recognize the Outer Banks? Why or why not? Explain your answer using specific references from the passages.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 9% | 49% | 38% | 3% |

3. How might the climate and geography of the Outer Banks contribute to the creation of a legend such as the Gray Man of Hatteras?

   Explain your answer using specific references from the passages.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 13% | 59% | 25% | 3% |

4. Why do you think current residents of Cape Hatteras continue to believe in the Gray Man? Explain your answer using specific references from the passage.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 5% | 59% | 33% | 3% |

5. Directions: Write a brief letter on the topic below.

**Some people believe the Gray Man of Hatteras actually exists; others believe he is simply a legend.**

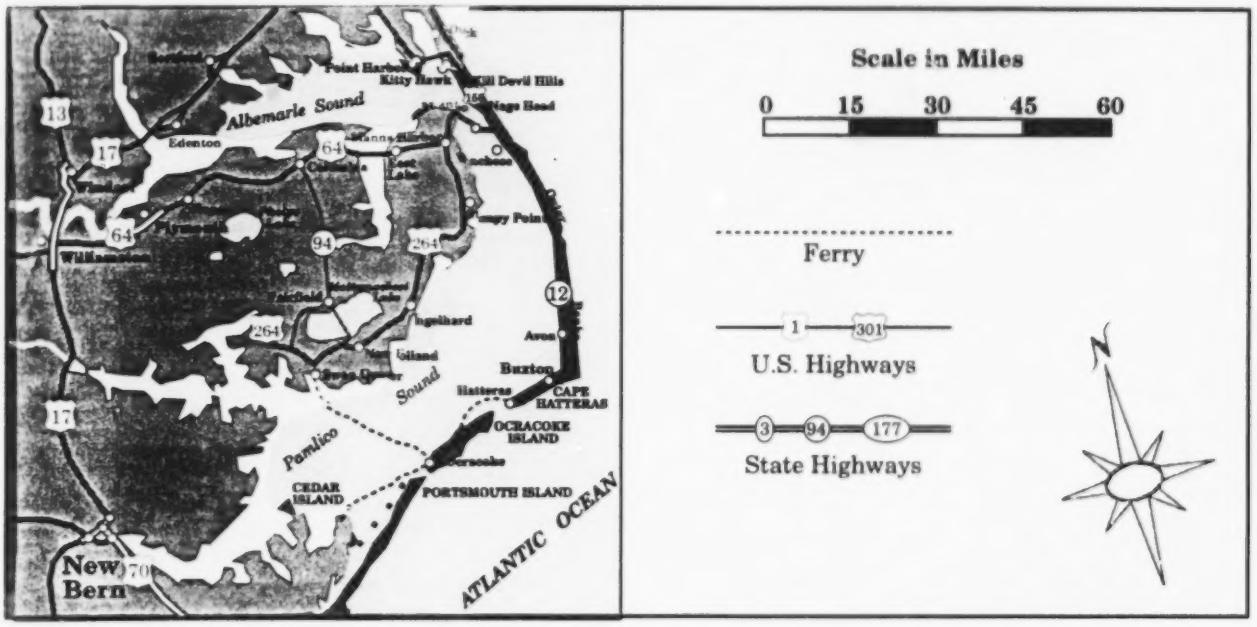
**Write a brief letter to your local newspaper trying to persuade the readers to accept your view on whether the Gray Man does or does not actually exist.**

**As you write your brief letter, remember to:**

- Be sure to persuade the readers that the view you give is the best one.
- Write in complete sentences.
- Check to be sure that you are writing good paragraphs.
- Use correct grammar, spelling, punctuation, and capitalization.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 4% | 59% | 34% | 3% |

*Use the map below to answer question 6.*




6. A group of Coast Guard recruits is going to drive from Columbia to Cape Hatteras. Write a complete set of directions the recruits could use to drive from Columbia to Cape Hatteras. Be as accurate and specific as you can.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 5% | 62% | 29% | 4% |



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# Formulas

The following information is for your reference in solving some of the problems on the test.

Rectangular or Triangular Prism with base area ($B$) and height ($h$)

Volume = $Bh$

Circle with radius ($r$)

Area = $\pi r^2$

Circumference = $2\pi r$

Cylinder with radius ($r$) and height ($h$)

Volume = $\pi r^2 h$

Surface Area = $2\pi rh + 2\pi r^2$

Triangle with base ($b$) and height ($h$)

Area = $\frac{1}{2}bh$

Pyramid with base area ($B$) and height ($h$)

Volume = $\frac{1}{3}Bh$

Total Area = Surface Area + $B$

Cone with radius ($r$), height ($h$), and slant height ($l$)

Volume = $\frac{1}{3}\pi r^2 h$

Lateral Area = $\pi rl$

Total Area = $\pi r^2 + \pi rl$

Use $\pi = 3.14$ or $\frac{22}{7}$

Hypotenuse ($c$) of right triangle with base ($b$) and altitude ($a$)

$c^2 = a^2 + b^2$

7. To modify erosion at Cape Hatteras, the Army Corps of Engineers obtained a special permit to design a sea wall 12 feet high and 4 feet thick. How long will the sea wall be if they use 9600 cubic feet of concrete? _____

| 0 | 1 | 2 |
|---|---|---|
| 55% | 9% | 37% |

8. Using 9600 cubic feet of concrete, how might the Army Corps of Engineers design a sea wall 300 feet long?

| 0 | 1 | 2 |
|---|---|---|
| 46% | 31% | 24% |

9. The Brooks family will travel between 600 and 700 miles during their trip to the Outer Banks. Their van averages 25 miles per gallon of gasoline.

   If the cost of gasoline ranges from $1.19 to $1.36 per gallon, could they expect to spend between $20 and $25 on gasoline during their trip? _____

   Explain how you determined your answer.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 45% | 25% | 23% | 7% |

*Use the ferry schedule to answer questions 10 and 11.*

**ROUTES AND SCHEDULES**

| Cedar Island | Ocracoke | Hatteras | Ocracoke |
|---|---|---|---|
| Crossing - 2 1/4 Hours | | Crossing - 40 minutes | |
| **Depart (Summer)** | | **Depart (Summer)** | |
| 7 am | 7 am | 5 am | 5 am |
| 8:15 | 9:30 | 6:00 | 6:00 |
| 9:30 | 10:45 | 7:00 | 7:00 |
| Noon | Noon | 7:30 | *8:00 |
| 1:15 | 3:00 | *8:00 | 8:30 |
| 3:00 | 4:15 | 8:30 | 9:00 |
| 6:00 | 6:00 | 9:00 | 9:30 |
| 8:30 | 8:30 | 9:30 | 10:00 |
| **Depart (Winter)** | | 10:00 | 10:30 |
| | | 10:30 | 11:00 |
| 7 am | 7 am | 11:00 | 11:30 |
| 10:00 | 10:00 | 11:30 | Noon |
| 1 pm | 1 pm | Noon | 12:30 |
| 4 pm | 4 pm | 12:30 | 1:00 |
| | | 1:00 | 1:30 |
| | | *1:30 | *2:00 |
| | | 2:00 | 2:30 |
| | | 2:30 | 3:00 |
| | | 3:00 | 3:30 |
| | | 3:30 | 4:00 |
| | | *4:00 | 4:30 |
| | | 4:30 | *5:00 |
| | | 5:00 | 5:30 |
| | | 5:30 | 6:00 |
| | | 6:00 | 6:30 |
| | | 6:30 | 7:00 |
| | | 8:00 | 7:30 |
| | | 10:00 | 9:00 |
| | | Midnt | 11 pm |

**Capacity - 50 Cars**
**Fare (One Way)**

| | |
|---|---|
| Pedestrian | $1.00 |
| Bicycle Rider | $2.00 |
| Motorcycles | $10.00 |
| Vehicle and/ or combination less than 20' | $10.00 |
| Vehicle and/ or combination 20' up to 40' | $10.00 |
| Vehicle and/ or combination up to 55' | $30.00 |

***Priority loading of commercial vehicles June 1 - Labor Day (by Permit)**

**Depart (Winter)**

**Leaves Hatteras every hour, 5 am to 5 pm & at 7 pm, 9 pm & 11pm. Leaves Ocracoke every hour, 6 am to 6 pm, 8 pm & 10 pm.**

**Capacity - 30 cars**
**Fare - Free**

**Seasons: Cedar Island—Ocracoke & Ocracoke—Hatteras:** Summer: April 1 - October 31, Winter: November 1 - March 31.

10. The pilots on the ferry that travels between Hatteras and Ocracoke work eight hour shifts.

What are the most crossings a pilot could make between Hatteras and Ocracoke if he/she allowed 20 minutes for the ferry to load and unload? _____

Explain how you determined your answer.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 54% | 24% | 10% | 13% |

11. While at Cedar Island, the Brooks notice 20 tractor-trailers waiting for the Cedar Island to Ocracoke ferry. The tractor-trailers are 18 feet, 36 feet, and 48 feet long.

What is the ***most*** that would be collected in ferry fees if there is at least one tractor-trailer of each size?

$_____

Explain how you determined your answer.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| 52% | 37% | 5% | 6% |



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*Based on current scientific data, tides occur as a result of the gravitational pull of the sun / moon and the rotation and revolution of the earth. As this occurs in a regular pattern, tide tables such as the following have been designed. Use this tide table to answer question 12.*

## Weekly Tide Table

### High Tides

| Date | Time | |
|---|---|---|
| | A.M. | P.M. |
| June 1 | 2:01 | 2:26 |
| June 2 | 2:51 | 3:16 |
| June 3 | 3:41 | 4:06 |
| June 4 | 4:31 | 4:56 |
| June 5 | 5:21 | 5:46 |
| June 6 | 6:11 | 6:36 |
| June 7 | 7:01 | 7:26 |

12. The Brooks family is planning to visit the Outer Banks on their summer vacation. They plan to arrive on June 9.

When should the first high tide occur on June 9? _____

| 0 | 1 | 2 |
|---|---|---|
| 69% | 14% | 17% |